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COL. FLORENCE TURKINGTON (see page 3)

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AUGUST | 1957

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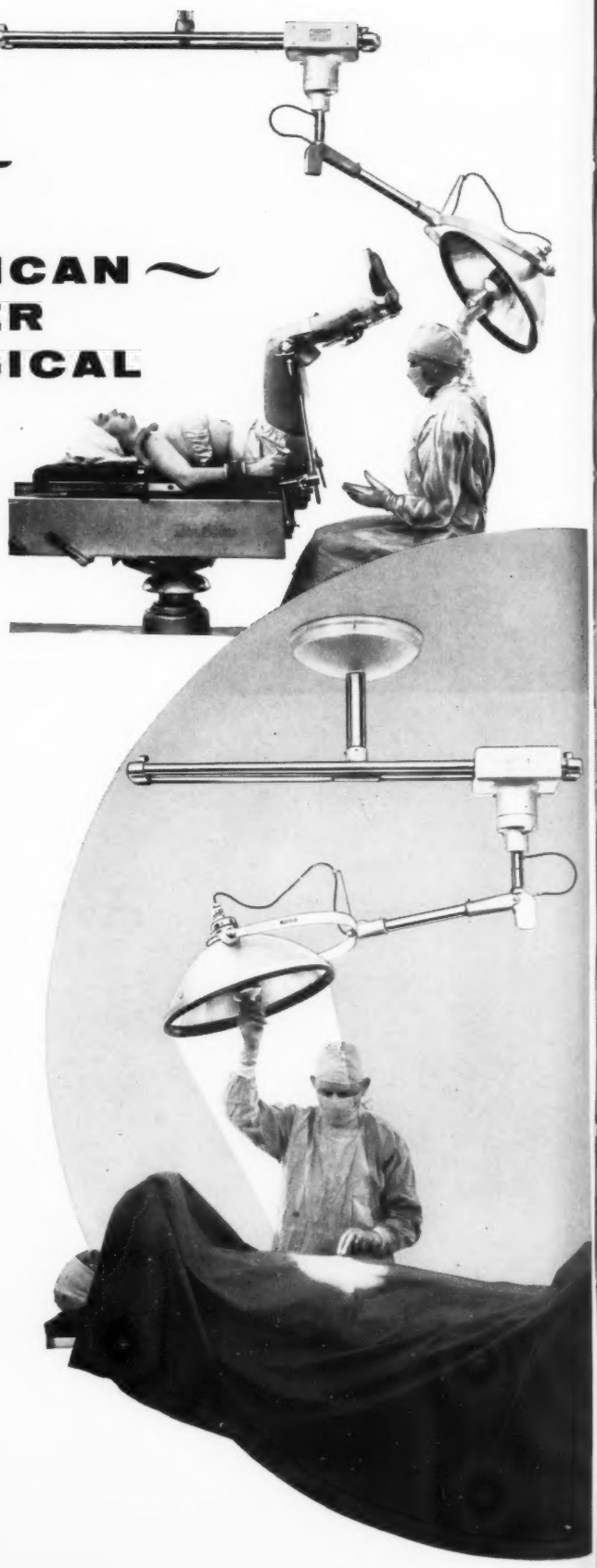

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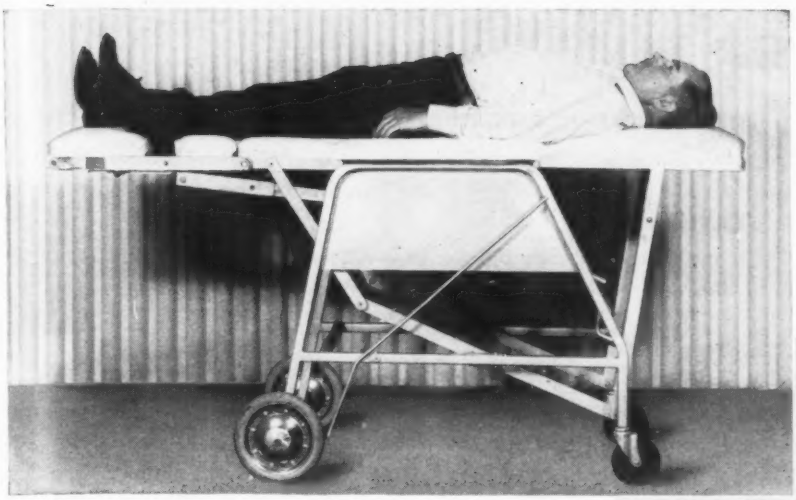

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HOSPITAL Topics

GRAPHIC REPORTING ON TODAY'S HOSPITAL PRACTICES

AUGUST 1957, VOL. 35. NO. 8

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PERSONALITY OF THE MONTH

COL. FLORENCE TURKINGTON, secretary, women's social service department, eastern territory, Salvation Army, has under her jurisdiction 10 hospitals, nine maternity homes for unmarried mothers, four day nurseries, a children's home and a nursery and foster-home service, two lodging houses for women, and a girls' training school for first offenders referred to the Salvation Army by New York City courts.

Col. Turkington has helped to develop affiliations for resident training in obstetrics in Salvation Army Hospitals with Tufts College Medical School, Boston; Hahnemann Medical College and Hospital, Philadelphia; University of N.Y., and Pittsburgh (Pa.) School of Medicine.

Colonel Turkington, one of the youngest of the famous Salvation Army "doughnut girls" of World War I, joined the Army in South Manchester, Conn., and was sent to France after three months of studies at the officers' training college in New York City. She was sent to Coblenz after the Armistice, and served with the American Army of Occupation until October, 1919.

She entered the women's social service department of the organization upon her return to this country, working first in the children's division of the Salvation Army Home and Hospital in Boston. She then entered the Salvation Army William Booth Memorial Hospital, Covington, Ky., and was graduated from the school of nursing in 1924. She was appointed supervisor upon completion of her course.

After serving as supervisor and assistant superintendent of nurses at Booth Memorial Hospital, New York City, she was sent to assist in organizing the hospital department and medical staff of the Salvation Army Hospital in Cleveland.

Colonel Turkington has been active in the administrative capacity of the hospital division of the women's social service department since 1931. She was appointed to her present post in 1943.

A former vice-president of the American Protestant Hospital Association, she has had numerous committee appointments in national social welfare organizations, and has participated in the Mid-Century White House Conference for Children and Youths.

Her favorite hobbies are her work and landscaping for hospitals.

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1. Alexander, Edythe L.: Mod. Hosp., May, 1957

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HOSPITAL Topics
The News Magazine for the Hospital Staff

AUGUST, 1957
VOL. 35, NO. 8

Scanning the News

Report Use of Chicks in Polio Vaccine Tests

Baby chicks compare favorably with monkeys in testing potency of poliomyelitis vaccine, according to results of an 18-month study conducted by Parke, Davis & Co.

Eugene A. Timm, M.D., Parke-Davis virologist and research team member, says use of chicks permits an accurate measure of the vaccine's potency. It also places potency testing on a quantitative rather than qualitative basis, and greatly reduces chance of error.

He points out that additional studies still in progress on use of chicks indicate time now required for potency tests (21 days) might be trimmed considerably.

The young white leghorn chicks are tested on a quantitative basis determined by the degree to which vaccine can be diluted before it fails to produce antibody response.

Chicks used in the tests are unnatural hosts for the virus, and their antibody-producing mechanisms are more independent of the variation in response found in monkeys, Dr. Timm stated.

Researchers who worked with Dr. Timm are I. W. McLean, Jr., M.D. and Edward Rope, M.D.

Work On Pill to Prevent Death from Radiation

A pill to protect humans from radiation death is being developed, say R. R. Overman, M.D., and B. G. Crouch, M.D., College of Medicine, University of Tennessee, Memphis.

A protective chemical called AET has been found 100 percent effective in mice exposed to lethal doses of radiation, and is now reported effective in monkeys. Human trials are under way.

Monkeys injected with AET were subjected to lethal doses of x-rays. The blood counts dropped, but climbed back to normal in 65 days.

Kathleen McAna, Blue Cross Association, New York City, prepares to send message on private-wire communications system connecting 86 Blue Cross Plans in the United States and Canada. Examining first message on tape held by Eileen Turley (center) are Edwin L. Harmon, M.D., director, Grasslands Hospital, Valhalla, N.Y., American Hospital Association trustee, and Antone G. Singsen (r.), vice-president, Blue Cross Association. The communications system will transmit authorizations of benefits to members hospitalized away from home, as well as handle other communications.

The full protective dosage can be given orally, but the problem is that a high level of it cannot be kept in body tissues for an extended period. The compound is almost immediately excreted by the kidneys.

Consider Heat Death For Cancer Cells

An industrial technic of induction heating to destroy cancer cells lodged in lymph nodes has been outlined by a team of Chicago surgeons.

R. Kennedy Gilchrist, M.D., William D. Shorey, M.D., Russell C. Hanselman, M.D., John C. Parrott, M.D., C. Bruce Taylor, M.D., and Richard Medal, M.D., Presbyterian-St. Luke's Hospital, have conceived the idea of implanting tiny magnetic metals into the nodes near the cancer during surgery.

The metal would be heated by a radio frequency to destroy the node and its cancer. Dr. Gilchrist believes heat can be administered to the nodes without destroying normal body tissue.

Cancer frequently recurs after surgery because some of the involved lymph nodes are so small that cancer in them cannot be seen.

Develop Longer Lasting Form of Estrogen

Discovery of a cheaper, longer-lasting form of estrogen has been announced by the Veterans Administration.

The synthetic chemical, produced in the VA center center at Wood, Wis., by biochemist Jerre L. Noland, Ph.D., has a much more prolonged action than other forms of estrogen.

The process to modify estrogen also may be adapted to produce improved long-lasting forms of drugs such as aspirin and antibiotics.

Vaccine Against Asian Flu Approved by Government

Drug manufacturers have been authorized to proceed with mass production of a vaccine effective against the highly contagious "oriental flu" now spreading throughout the world.

The vaccine has been tested successfully on human volunteers injected with the oriental virus. Specifications have been sent to six phar-

(Continued on next page)

maceutical firms, which are expected to have the vaccine ready when the flu season strikes here this fall.

A spokesman for the PHS said the vaccine, like others used in combatting influenza, is not 100 percent effective, but is considered to be of some benefit.

Prevent Motion Sickness With Sodium Bicarbonate

Motion sickness can now be prevented for as long as one month by injections of sodium bicarbonate, according to Minoru Muta, M.D.

In a study of 100 persons susceptible to air, sea, or car sickness, the solution was completely effective in 69, partly so in 23, and a failure in only eight, Dr. Muta reports.

Hearing tests showed no significant changes in ordinary inner ear functions, but after-sensations following exposure to rotation were definitely reduced.

The solution creates a change in the amount of potassium in the fluid, circulating in the inner ear, that is responsible for sensations of motion being transmitted to the brain.

Dr. Muta suggested that sodium phosphate, sodium citrate, and atropine also could reduce the potassium concentration of the ear fluid.

Chemical Repels Biting Insects

A highly effective insect repellent has been developed by entomologists in the U.S. Department of Agriculture.

The product, called DET (diethyl toluamide), has proved effective against most insects attacking humans. Harmless to the skin, it will not rub off easily or rinse out of cloth.

Applied full strength, it repels most kinds of mosquitoes for three to eight hours. When applied to cloth other than that made of rayon, acetate, and dynel fibers, the repellent effect lasts for days.

Brain Integrator Identified As Nerve Network

A nerve network in the brain stem, known as the RAS, appears to serve as the brain's integrating organ, according to John D. French, M.D., neurosurgeon, University of California at Los Angeles Medical School, and VA Hospital, Long Beach, Calif.

Recent studies suggest that the RAS awakens the brain to consciousness, keeps it alert, and directs messages to the nervous system, Dr. French said.

Stimuli to the senses are monitored by RAS, which also tempers and refines muscular activity and bodily movements. Focusing of attention, introspection, and all forms of reasoning are affected by the network.

Although life is possible after injury has destroyed the center, the individual "is reduced to a helpless, senseless blob of protoplasm," Dr. French reported.

Sound Waves Level Walls Of Disease Microbes

High frequency sound waves are being used to break apart disease-causing microbes, Giulio Bosco, M.D., University of Chicago microbiology department reported.

The ultrasonic waves, with a frequency of 400,000 cycles a second, tear away the thin, tough wall encasing each one-celled organism. The enclosed cytoplasm of the cell, killed by the waves but left chemically unchanged, is then freed.

Dr. Bosco first used his ultrasonic technic in Italy where he produced experimental cholera and typhoid vaccines by injecting dead, but chemically unaltered, microbes into animals.

These microbes stimulate production of antibodies. Blood serum containing the antibodies is then drawn off and refined into vaccines, he said.

The vibrations are produced by a 2,000-volt, 600-watt quartz crystal generator.

Virus Infection Defense Developed in Tests

Experiments suggesting a new defense against virus infection of cells have been reported to the American Cancer Society by Neal Groman, M.D., University of Washington, Seattle.

Addition of unsaturated fatty acids, such as oleic acid, to the culture medium containing viruses and living cells prevents the virus from infecting its host cells. All cells remain alive, and the virus apparently loses its ability to infect.

Unsaturated fatty acids are deficient in hydrogen atoms, and have great avidity for combining with other chemicals. At present it is not known whether they have the same virus-inhibiting effect when used in the living body.

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News Briefs at Press Time

NURSING SCHOOLS NOW ELIGIBLE FOR LOW-INTEREST HOUSING LOANS

Hospitals operating nursing schools and intern programs are now eligible for long-term, low-interest loans for construction of residences for student nurses and interns, under terms of an amendment to Title IV of the Housing Act.

For details on how to apply for loans, see the article beginning on page 17 of this issue.

IRS RULES FOUNDATION'S EXTRA INCOME TAXABLE

Income from a tax-exempt organization's collateral activities is taxable, the Internal Revenue Service ruled recently in the case of a foundation engaged in medical research which produced audio-visual aids and encephalograms for hospitals and educational institutions.

Seventy-five percent of the foundation's total receipts during the taxable year in question came from billings for these services. IRS held these revenues taxable because operation of the foundation's medical illustration department was "conducted in a manner similar to a commercial undertaking," and also "the income derived therefrom is disproportionate when compared with the size and extent of its exempt activities."

HOSPITAL CONSTRUCTION ZOOMS UPWARD IN FIRST HALF OF 1957

Hospital-institutional construction for the first half of 1957 totaled $393 million, compared with $283 million for the same period in 1956.

A 50 percent gain was registered in private hospital and institutional construction. Tax-supported projects in this category showed a 26 percent increase.

HOUSE CONSIDERS NEW STUDY ON AID TO STATES

The House of Representatives is considering a new investigation of federal financial aid to states and local governments for public health, hospital construction, welfare, and other programs.

Enabling resolution sponsored by Rep. Phil M. Landrum (D., Ga.) has been approved by House Rules Committee and is given a good chance for passage.

Health activities were included in Kestnbaum Commission's study of role of federal government in relation to states and subdivisions. Health advisory committee was headed by Franklin D. Murphy, M.D., chancellor, University of Kansas. House Intergovernmental Relations Subcommittee has been screening recommendations since report was made two years ago. But Rep. Landrum believes federal aid has not been given the study it deserves.

ALL MEDICARE CONTRACTS RENEWED

All 55 Medicare contracts, which expired June 30, have been renewed. New contracts are for periods of seven to 17 months, arranged so that there will be no more than six terminations in any one month.

REPORT ISSUED ON STATE, LOCAL REACTIONS TO FEDERAL AID

More funds for general public health assistance, for mental health projects, and for increased construction of hospitals and other medical facilities are health needs listed most frequently by states replying to a questionnaire on federal programs mailed last year by the House Intergovernmental Relations Subcommittee.

City and county governments were also queried in the study. Results are published in a 542-page volume which can be obtained free by writing to the subcommittee at the House Office Building, Washington 25, D.C.

BRIEF BRIEFS

Elmer Hess, M.D., former AMA president, was scheduled to succeed Howard A. Rusk, M.D., as chairman, Health Resources Advisory Committee . . . U.S. Air Force placed eight new hospitals and seven new dispensaries in commission in fiscal year ended June 30, and awarded contracts for five hospitals and 13 dispensaries . . . World Health Organization will hold its 10th anniversary assembly in Minneapolis next year.

Gordon M. Marshall

Calendar of Meetings

AUGUST

1- 3 West Virginia Hospital Association, Greenbrier Hotel, White Sulphur Springs, W. Va.

5 American Hospital Association Institute, Dietary Dept. Administration, Ambassador Hotel, Los Angeles

19-23 American Hospital Association Institute, Hospital Pharmacy, University of Chicago, Chicago

23-27 American Surgical Trade Association, Hotel Sherman, Chicago

SEPTEMBER

3- 4 Association of Western Hospitals, Workshop on Hospital Nursing Service, Hotel Boise, Ida.

3-13 American College of Hospital Administrators Basic Institute, International House, Chicago

8-13 American Congress of Physical Medicine and Rehabilitation, Los Angeles, Calif.

9-13 American College of Hospital Administrators Advanced Institute, International House, Chicago

16-26 Workshop on Aseptic Technic, University of Minnesota Center for Continuation Study, Minneapolis.

28-30 American College of Hospital Administrators, Atlantic City, N. J.

29-Oct. 4 American Society of Clinical Pathologists, Roosevelt Hotel, New Orleans, La.

30-Oct. 3 American Hospital Association, Hotel Traymore, Atlantic City, N. J.

30-Oct. 4 National Association for Mental Health, Ninth Mental Hospital Institute, Cleveland, O.

OCTOBER

7-10 American Academy of Pediatrics, Palmer House, Chicago

7-10 American Hospital Association Institute, Operating Room Administration, President Hotel, Kansas City, Mo.

7-10 American Association of Medical Record Librarians, Schroeder Hotel, Milwaukee, Wis.

8-10 Montana Hospital Association, Northern Hotel, Billings

9-10 Indiana Hospital Association, County Hospital Section, Student Union Building, I.U. Medical Center, Indianapolis

9-10 Washington State Hospital Association, Leopold Hotel, Bellingham, Wash.

9-11 American Hospital Association Institute, Insurance for Hospitals, Statler Hotel, Hartford, Conn.

9-11 Mississippi Hospital Association, Hotel Buena Vista, Biloxi, Miss.

10-11 Colorado Hospital Association, Hotel Denver, Glenwood Springs, Colo.

13-18 American Academy of Ophthalmology and Otolaryngology, Palmer House, Chicago

14-18 American Society of Anesthesiologists, Statler Hotel, Los Angeles

14-18 American College of Surgeons Clinical Congress, Convention Hall, Atlantic City, N. J.

14-18 American Hospital Association Institute, Methods Improvement Workshop, Bon-Air Hotel, Augusta, Ga.

15-16 South Dakota Hospital Association, Sheraton Cataract Hotel, Sioux Falls, S. D.

17-18 Nebraska Hospital Association, Cornhusker Hotel, Lincoln

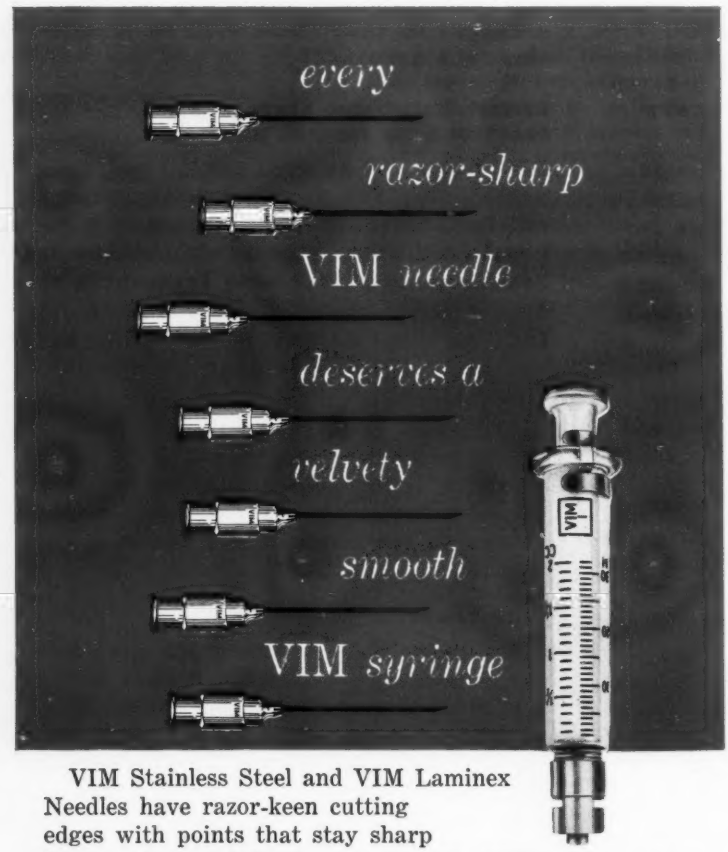
18 Vermont Hospital Association, Long Trail Lodge, Pico Peak, Rutland

20-26 American College of Gastroenterology, Hotel Somerset, Boston

21-23 American Hospital Association Institute, Medical Record Library Personnel, Hilton Hotel, Albuquerque, N.M.

21-25 National Safety Council, Conrad Hilton Hotel, Chicago

(Continued on page 13)



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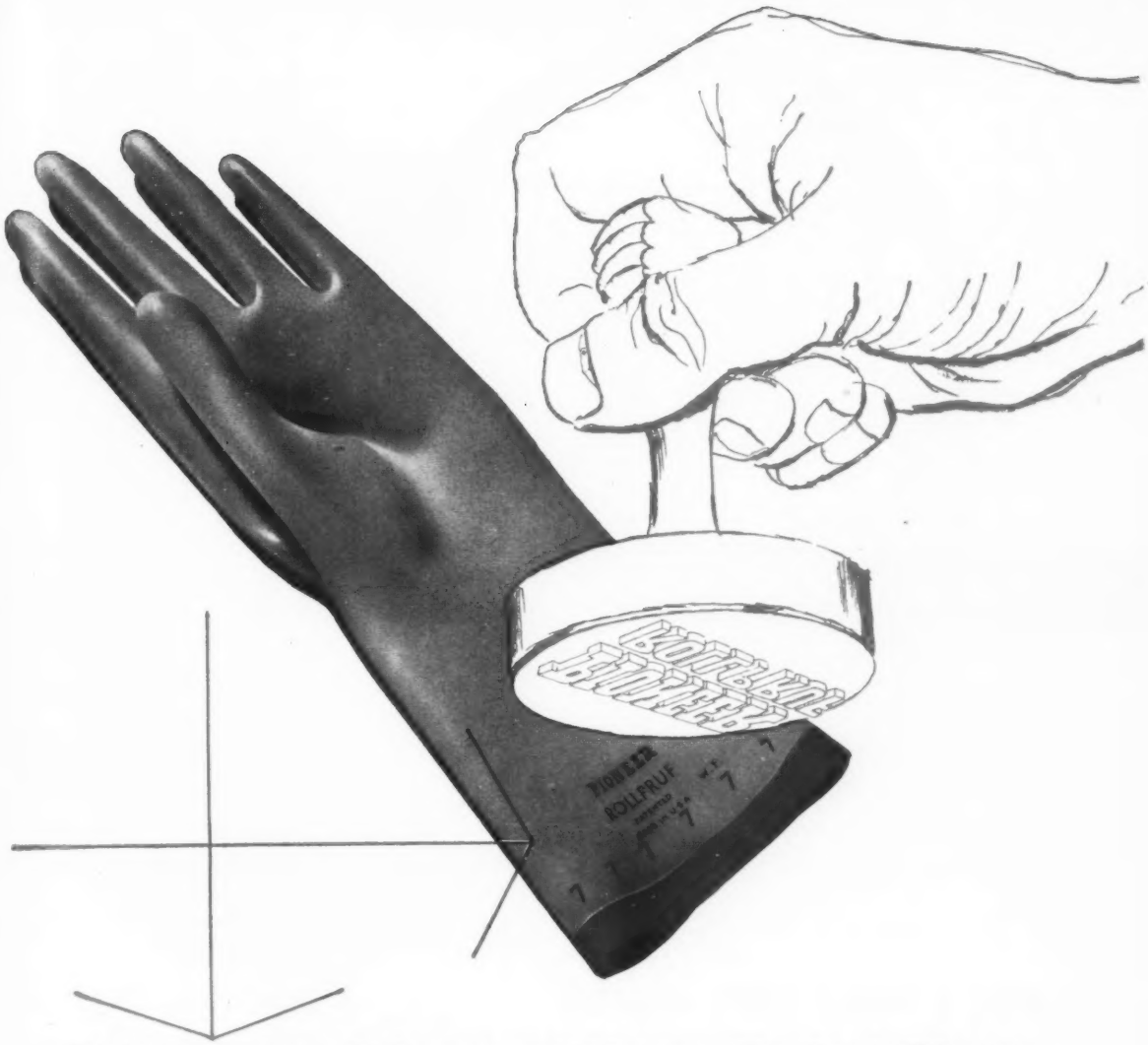

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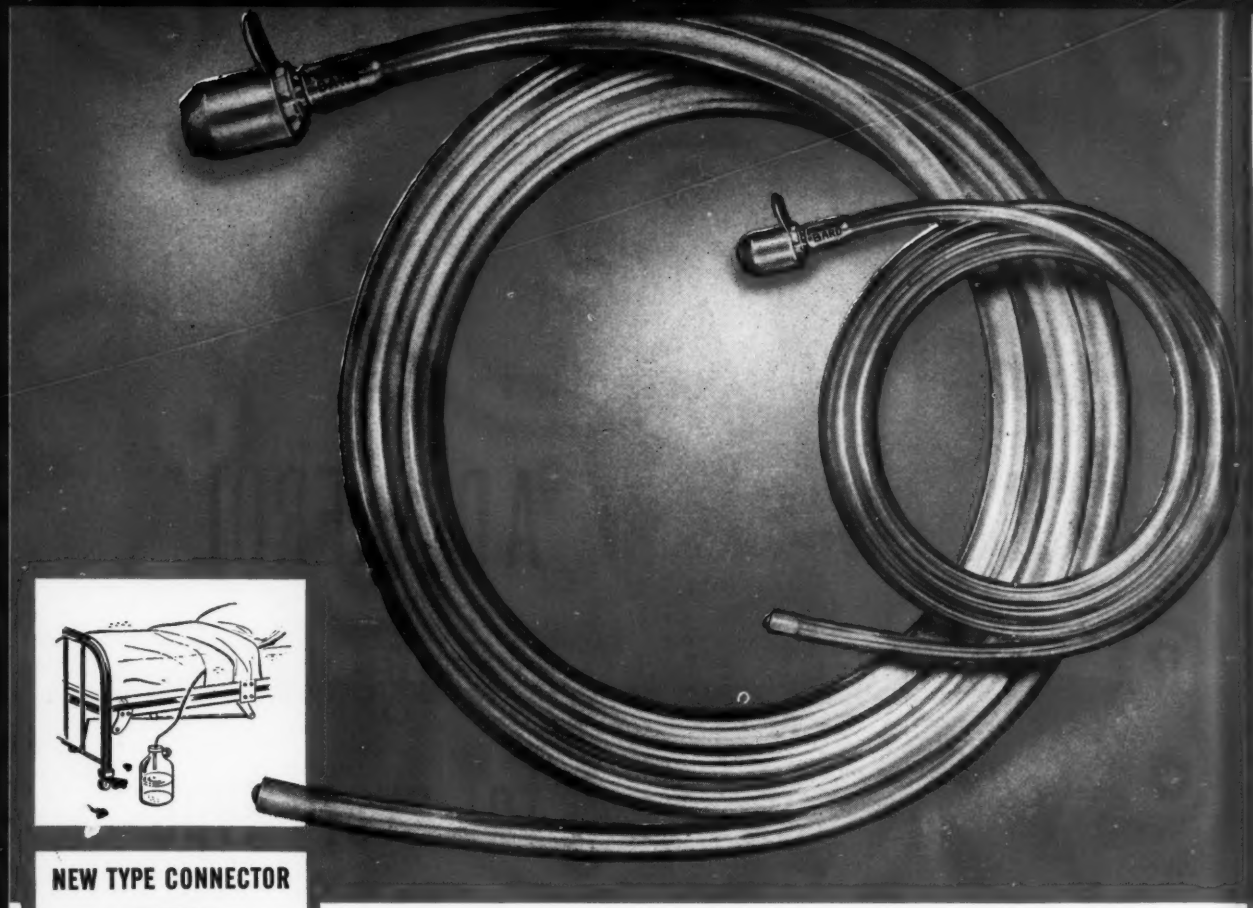

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SAVES TIME—Eliminated also is the costly time of sterilizing, reconditioning and resterilizing drainage tubes.

EASILY ATTACHED—Each 5-foot Bardic Drainage Tube has an adapter to connect one end to an indwelling catheter.

UNCONTAMINATED HANDLING—A rubber closure cap with tab is supplied with each Bardic Drainage Tube to assure uncontaminated handling.

KINKING PREVENTED—The heavy wall thickness of the Bardic Plastic Drainage Tube prevents kinking.

DRAINAGE ASSURED—Two sizes of lumen are available. The regular size is ample for normal drainage. The larger size for use where drainage might be impaired by blood clots.

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1000R 3/16" lumen

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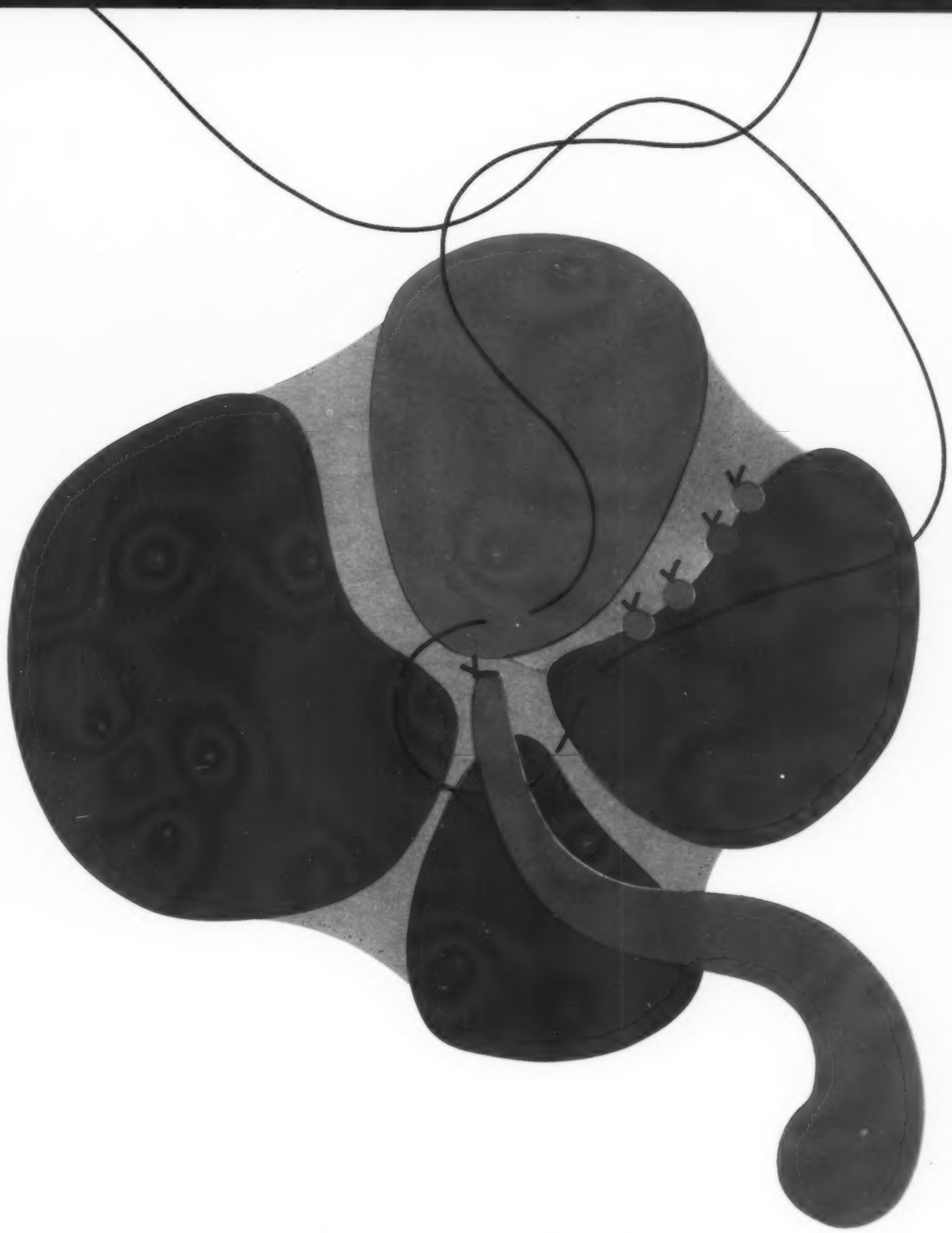

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Hospital Schools Eligible for Low-Interest Housing Loans

By Frank C. Frantz*

HOSPITALS operating nursing schools and intern programs are now eligible to participate in the College Housing Program, under terms of an amendment to Title IV of the Housing Act of 1950.

This legislation, approved by President Eisenhower on July 12, permits a hospital operating such an educational program to apply for a 40-year mortgage loan at three percent interest to assist in the construction of student residence facilities. A less tangible but important effect of the legislation is the recognition of the contribution of hospitals to higher education.

The exact language of the amendment is as follows:

"Section 404 (b) of such act (Housing Act of 1950) is amended to read as follows:

"'(b) Educational institution means (1) any educational institution offering at least a two-year program acceptable for full credit toward a baccalaureate degree, including any public educational institution, or any private educational institution no part of the net earnings of which inures to the benefit of any private shareholder or individual, (2) any hospital operating a school of nursing beyond the level of high school approved by the appropriate State authority, or any hospital approved for internships by recognized authority, if such hospital is either a public hospital or a private hospital, no part of the net earnings of which inures to the benefit of any private shareholder or individual . . .'"

*Associate consultant, John G. Steinle and Associates.

A dollar limitation was placed on the participation of hospitals in the program for the first year by amendment to Section 401 (d) of the Act, as follows:

"Provided further, that the amount outstanding for hospitals . . . shall not exceed $25,000,000."

THE COLLEGE HOUSING PROGRAM

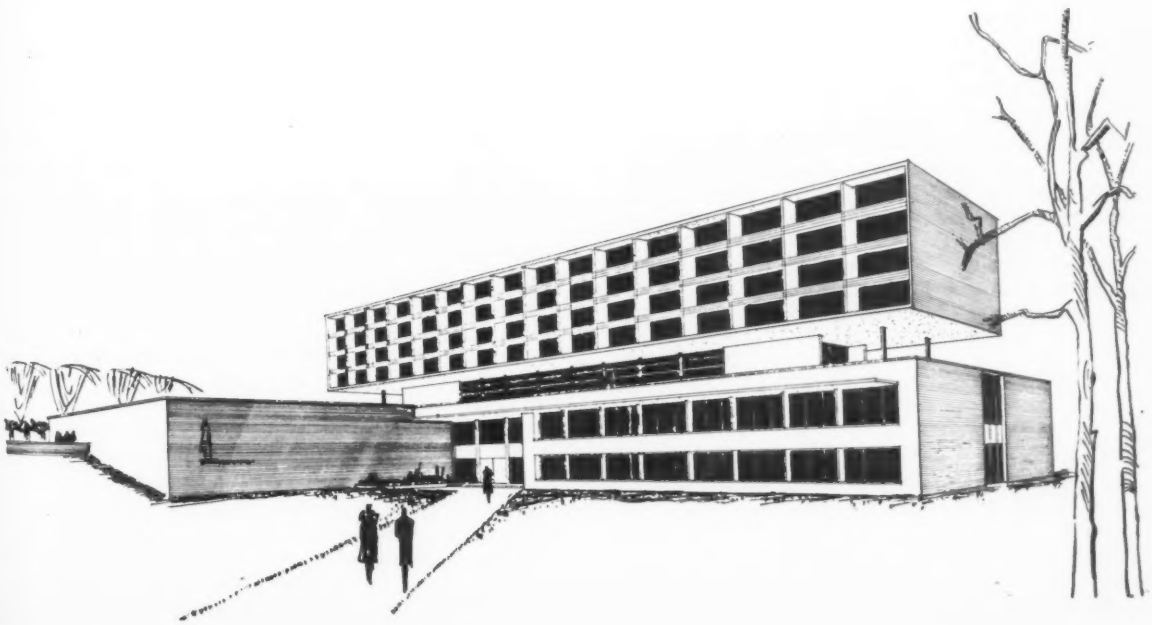
Burgeoning college enrollments beginning after the close of World War II placed an almost impossible burden on colleges and universities in meeting their responsibilities for student housing. Persuasive evidence that high construction costs, high interest rates, and relatively short-term loans were preventing many colleges and universities from constructing needed housing for students and faculty at suitable rental rates brought about the enactment of Title IV of the Housing Act of 1950.

Since that time, literally hundreds of institutions all over the country have been enabled to construct attractive student housing in economically sound, self-liquidating projects which can be rented at rates appropriate for students. Many of these projects have been built to provide housing for students in collegiate schools of nursing.

But hospital schools have not been elegible for loans, although about 80 percent of our professional nursing personnel today are educated in schools operated by general hospitals.

The anomaly in the positions of collegiate and hospital nursing schools under the existing law was pointed up by

(Continued on next page)



John G. Steinle in his recent statement before the Subcommittee on Housing of the House of Representatives:

"They (nursing schools) fall roughly into two classes: First, educational institutions operated directly by hospitals; second, separate educational institutions affiliated with hospitals to provide a full curriculum of nursing education. The first group includes the vast majority of nursing schools; the second group includes the lesser number. Under the present law, the second group is eligible to obtain housing loans, but the first and larger group is not."

During the last decade, which has seen phenomenal development in medical care and parallel growth in the demands upon hospitals, all sources of support—governmental, voluntary, and private—available to hospitals have been absorbed in the effort to keep pace with demands for patient beds and diagnostic and treatment facilities. Expansion, replacement, and remodeling of nursing school facilities, both instructional and student residence facilities, have been neglected.

Thus, nursing schools, which often were started in makeshift quarters, have continued to use such quarters, which have become progressively more crowded and more inadequate for an up-to-date educational program.

This is where hospital schools of nursing stand today as they confront a future in which the demand for their traditional contribution to higher education is greatly increasing.

Student enrollments must be expanded if future needs for professional nursing personnel are to be met. Growth in high-school enrollments and increased interest in the nursing profession are favorable indications for the future. For example, in New York State, it has been estimated, based on data supplied by the State Board of Nurse Examiners, that an increase of about 50 percent in qualified applicants for admission to nursing schools may be anticipated by 1960. All of this increase will be needed to staff our hospitals and other health and medical facilities, and, for the foreseeable future, the major share of this increase must be accommodated by hospital schools of nursing.

The situation of hospital schools is not attributable to a lack of awareness on the part of hospital governing boards of the problems that exist or a lack of appreciation of the demands of the future. Mr. Steinle further stated to the House Subcommittee:

"In discussions with hospital boards of trustees, I find that many consider the problem of providing sufficient funds for facilities for nursing education their No. 1 problem. Hospital boards are willing and able to continue the costly operation of nursing schools, but are unable to provide the immediate capital funds to build and expand the facilities."

A positive program which can assist many hospitals in providing the student residence portions of needed facilities is now available in the amended College Housing Program.

How to Apply for Loans

The program is administered by the College Housing Branch of the Community Facilities Administration, a constituent of the Housing and Home Finance Agency. Applications are received and initially reviewed in the regional offices of the Agency. Application forms may be obtained from the appropriate regional office, and the personnel of that office will gladly instruct and assist the institution in preparing the application. Regional offices are located in New York City, Philadelphia, Atlanta, Chicago, Fort Worth, and San Francisco.

Considerable time and expense are involved, both for the applicant and the agency, in developing and analyzing the information and exhibits required for the full application. For this reason the application procedure is divided into two phases:

(1) The preliminary application, which is a relatively simple submission of basic information on eligibility and need; and

(2) The full application in which all factors of eligibility, need, projected construction, and debt financing are developed and reviewed in detail for final approval.

In the preliminary application stage the hospital would submit:

Information on its identity and corporate character, and evidence of approval of its school by the appropriate state authority.

A statement of the need for new residence facilities.

A general description of the project proposed to meet the needs identified.

Generally speaking, projects proposed should be designed to meet current needs for student housing or needs which demonstrably will obtain at the time of completion of the project. However, the situation of each applicant is reviewed on an individual basis, and due consideration is given to such factors as economic size of the school and special conditions in the community.

The review of the preliminary application consists of a preliminary determination that the applicant is a legally eligible institution, that there appears to be a real need for the facilities proposed, and that the construction proposed is reasonable and cost estimates are realistic.

Following approval of the preliminary application by both the regional office and the Washington office of the College Housing Branch, a reservation of funds is made for the applicant's project. This action, however, does not constitute approval of the project but simply sets the stage for submission and review of the full application.

THE FULL APPLICATION

The review and analysis of the full application has three distinct phases; the engineering review, the financial review, and the legal review.

The *engineering review* requires the submission of such data and supporting documents as:

A plot plan showing location of site and orientation of proposed building, and preliminary drawings consisting of elevation views of the building and plans showing the layout of each floor.

Outline specifications indicating type of construction, heating and ventilation, plumbing, and electrical work.

Detailed breakdown of floor areas by function.

Estimates of construction and other costs by elements of cost.

In addition to a review of the suitability of the proposed construction for the purposes identified and a review of cost estimates, the engineering analysis must show that the physical character of the proposed structure is within statutory limitations and conforms to sound building practice. The statutory requirement is simply that the con-

TOPICS Supported Amendment Editorially

The need for financial aid to hospital schools of nursing was brought out in HOSPITAL TOPICS' recent series on "The Nursing Problem" (October, 1956-April, 1957), by John G. Steinle, Arthur Allen, and Mr. Frantz. In the concluding article of that series, Mr. Steinle described appalling physical conditions which exist in residences or dormitories for nursing students in hospital schools.

A reprint of the entire series of articles was sent by HOSPITAL TOPICS early in June to every member of Congress. That the congressmen appreciated receiving the information is obvious from letters they have written to the publisher. Rep. Will E. Neal of West Virginia wrote that he passed along the "very informative series of articles from HOSPITAL TOPICS," and had received a request for additional copies.

Rep. Russell V. Mack of Washington said that the information in the article would be "most helpful," and Sen. Paul Douglas of Illinois thanked HOSPITAL TOPICS for calling his attention to the article concerning the extension of the loan program.

struction ". . . not be of elaborate or extravagant design or materials." Within this broad limitation, ample flexibility in architectural treatment is possible. Policies which place a premium on individual freedom for the institution and its architect are well established in the College Housing Program.†

The *financial review* involves a determination of the financial soundness of the loan proposal in terms of the balance between the amount of the loan and the income produced by the facility and other security pledged for repayment. For this analysis the applicant should submit such data as:

Financial reports of the institution.

Current and recent year's budgets for the school.

Detailed explanation of mortgages and other debts payable and the arrangements for such payments.

Anticipated income of the proposed facility by source, and anticipated expenses by object.

Special problems in the financial review of hospital applications undoubtedly will be posed because the pattern of student payments ordinarily does not result in specific income for the residence facilities. Furthermore, the absence, in most hospitals, of separate accounting for the nursing school will make difficult the development of a body of historical financial data. A comprehensive review and realignment of the financial relationships of the school and the hospital and the establishment of an entirely separate system of accounts for the school of nursing may be found desirable in order to predict with assurance and to demonstrate the financial soundness of the project.

In many cases it should be expected that the pledging of income other than school income, and possibly also a pledge of the full faith and credit of the hospital, may be required to carry the loan. As a general rule, pledged, assured annual income must be equal to at least 1.35 times the annual debt service. This excess over the amount required for current repayment is used to establish and maintain a reserve fund against periods of declining revenues.

The *legal review* gives particular attention to the eligibility of the applicant in terms of the definition of eligibility in the statute, and to the basic legal authority of the applicant to construct and operate the facilities proposed and to borrow money.

ACTUAL FINANCING AND CONSTRUCTION

Following the final approval of the full application, a loan agreement is executed by the applicant and the Agency. The proceeds of the loan, however, do not become available at this time. The applicant is expected to provide funds for construction either from its own resource or by obtaining short-term financing. The cost to the applicant of short-term financing of construction may be included as a part of the total cost of the project.

If such financing is not available, an application may be made to the Agency for an advance on the proceeds of the final loan so that construction may be begun.

After the loan agreement has been executed but before construction may be begun, the institution must furnish to the Agency:

Evidence of title to the project site.

Completed plans, specifications, and contract documents.

Evidence of state and local approval of plans and specifications.

Copies of the agreement with the architect.

A representative of the Agency attends the bid opening, and concurrence of the Agency in the contract award is required.

Although the institution and its architect are responsible for supervision and inspection of construction and of the completed project, an Agency project engineer will periodically visit the site to ascertain that the terms and condition of the contract are being met, particularly with respect to rate of progress, contract payments, workmanship and materials. Final inspection of the project is a joint inspection by representatives of the institution, architect, contractor, and the Agency.

GENERAL POLICIES

The foregoing outline, based on experience with the processing of college dormitory loans translated to the hospital nursing school situation, should give a fairly accurate picture of the steps involved in participation in the program. Complete and authoritative instructions to applicants, however, should be obtained from one of the regional offices of the Agency.

(Continued on next page)

†The record of the Agency in this connection is described in "College Buildings," *Architectural Record*, January, 1955.

There is no magic nor is there any element of "government largesse" in this program. All loans approved will have been determined to be sound investments of public funds with every reasonable assurance that the project will be fully self-liquidating within the term specified. As a general rule, each approved loan will be such that, except for the fact that the interest rate is below current market levels, it could be sold to a reputable private lending institution.

There must be "red tape." The application and the supporting material required are voluminous and complicated, but represent little, if anything, more than would be required by a private lender to whom the same proposal was made.

NEED FOR LONG RANGE PLANNING

In addition the several specific matters discussed above, a sound development program for a school of nursing implies careful measurement of community need and integration with the master plan for the hospital. The proper size of the school and the character and features of the educational program should be determined for the present and for several stages of future development of the hospital.

This requires first an evaluation of the educational resources available to the school in terms of the availability of faculty and particularly the availability and disposition of the medical staff to contribute to the school program; the quantity and variety of clinical material available in the hospital; the existence of specialized medical services and facilities, and the possibilities for affiliation with nearby colleges for the teaching of certain courses.

The school plan developed on the basis of these considerations must in turn be reviewed in the light of the ability of the community to supply qualified students to the school.

The extent of the areas served by hospital schools of nursing varies widely with differences in geographic, trade, and cultural patterns surrounding these institutions. The school's actual service area should be carefully determined. Areas in which normal needs for nursing education facilities are not being met should be identified. The feasibility of undertaking to serve these areas and extending recruitment programs to them should be evaluated.

Current elementary and secondary school enrollments in the service area of the school must be studied, as well as population characteristics and trends. The volume of acceptable students from the community to be served also will be in part a function of the stringency of school entrance requirements, which should be fully formulated.

The school's development program must strike a balance between the educational resources of the school and the student resources of the community, and expansion of the school of nursing should be planned to coincide as closely as possible with expansion of the hospital facility.

A businesslike approach to the use of the assistance available through the College Housing Program, coupled with deliberate, intelligent long-range planning for the growth of the hospital and its school of nursing, can make significant and lasting contributions to the advancement of nursing education.

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Herndon Heads Study Of General Hospitals

Elisha M. Herndon, executive vice-president, Hospital Care Association, Durham, N.C., will head a study of general hospitals in the state with respect to average length of stay, frequency of admission, and related factors.

The committee includes James A. Weathers, Jr., Medical Care Commission, Raleigh; James R. Felts, Jr., assistant to the director, Duke Endowment, Charlotte; James F. Barnes, executive secretary, State Medical Society, Raleigh; J. G. McAllister, research and statistical director, Hospital Saving Association, Chapel Hill; Sample B. Forbus, director, Watts Hospital, Durham; Mrs. Edith M. Brannock, statistician; Robert H. Mugge, director, division of research and statistics, State Board of Public Welfare, Raleigh, and Bernie B. Welch, Duke Endowment, Charlotte.

Study Relations Between Hospitals, Public Agencies

Under sponsorship of the Hyams Fund, the Permanent Charity Fund, and the Massachusetts General Hospital, Boston, a pilot project has been started at the hospital to study relationships between a voluntary teaching hospital and community and public agencies, and clients or patients whom the agencies serve.

Goals of the one-year study are to: develop criteria for selection by public agencies of the hospital or clinic which will obtain the optimum result at least cost; provide better service and continuity of care; promote uniformity of policies and procedures in public agencies and voluntary teaching hospitals; achieve simplicity of administration; create better understanding of mutual problems; develop a pattern for administration of the Public Welfare Plan within a voluntary hospital; and to analyze costs of the medical care plan as it relates to the voluntary hospital, explore ways of reducing costs, and consider basis of payment to hospitals.

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A report on the concentrate was presented to the Federation of American Societies for Experimental Biology by Chicago scientists Oscar F. Davis, Ph.D., Albert Levine, M.D., Charles Meyer, M.D., Irving Forman, M.D., and Morris Finkel, M.D.

Adults who require special diets because of high blood pressure, heart failure, cancer or obesity have used it, as well as persons in normal health. Many have used it as long as a year.

Heart patients have been able to reduce use of digitalis, and hypertension patients have required less drugs, the scientists stated. Weight loss was also profound in obesity.

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New Ice Cream Has Fewer Calories

Ice-cream lovers who are watching their waistlines may benefit from research being carried out at the veterinary science department, University of Saskatchewan, Saskatoon, Can.

Using corn syrup to replace some of the cane sugar, the new product has only 70 percent as many calories as standard ice cream.

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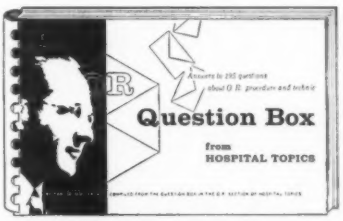

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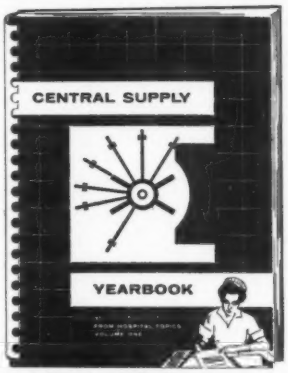

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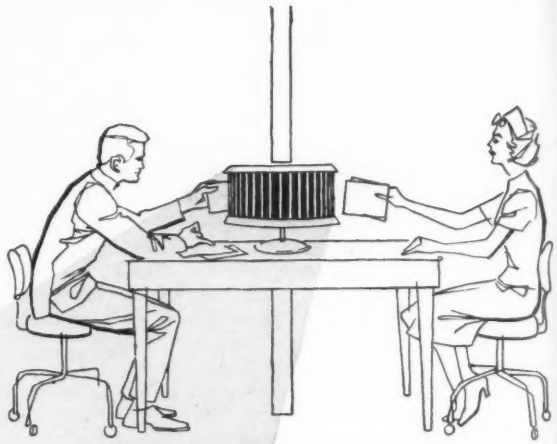

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Hospital Personnel Administration

Tenth in a series on hospital organization, based on lectures given at meetings of the Association of Western Hospitals and allied state groups

By John H. Gorby*

Part II

• The functions and activities involved in the identification, orderly classification, and compensation of assigned jobs were discussed in Part I of this article. Part II is concerned with the harnessing of human resources through careful and intelligent handling of employees as individuals. This may be discussed under the following general headings:

- Employment and job placement
- Employee relations
- Inservice training
- Personnel records.

EMPLOYMENT AND PLACEMENT

The almost universal fault with the performance of this activity in any type of organization is that it is done on a crisis basis. The employment machinery stands idle until a vacancy actually occurs and a new employee is needed within a few days. There is insufficient time for the development of sources of candidates, the selection process is cut short, and a tendency is created to accept the first candidate who appears to have the basic training and experience qualifications. Such methods are not in keeping with the importance of the relationship to which both the employee and the hospital are being committed.

The employment function for certain types of personnel is often carried out by the head of the department in which they are employed. This is especially true of nursing personnel and technicians. The role of heads of departments in employment should be threefold:

(1) Advising in the development of formal qualifications standards for particular job classifications.

(2) Assisting in the development of sources of applicants by helping to establish permanent working relationships with professional organizations and schools.

(3) Making the final selection of the new employee from a panel of candidates referred by the person delegated the central personnel function.

The recruitment and screening processes, with the assistance mentioned above, should be delegated to a representative of the administrator's office, where policies may be uniformly interpreted for prospective employees and standards for the collection and evaluation of information concerning applicants may be administered.

Much of the crisis character of recruitment can be eliminated by systematically developing contacts with professional organizations and schools, vocational counselors, public and private employment agencies, and other agencies which would constitute sources of referral of applicants. The person assigned the employment function should seek to maintain continuing informal relationships with officials of such agencies by having them visit the hospital to elicit their interest in, and feeling of familiarity with, the institution and its program, and by keeping them currently informed of employment opportunities which the hospital expects to offer.

It should not be the practice to refuse applications because no suitable vacancy exists at the moment. Prospective applicants who appear desirable, and especially those referred by personnel sources which the hospital has cultivated, should be urged to file applications. It is even worthwhile in many cases to have an initial interview and attach a record of the impressions gained to the application.

A file of applications of qualified persons who have experienced friendly interest and courtesy in their last contact with the hospital will provide a valuable personnel source for future recruitment. About once yearly this file should be made current by circularizing the applicants with a brief questionnaire form designed to determine whether they are still interested in employment with the hospital and to bring up to date the information on their applications.

Qualifications specifications are the province of the official responsible for the department in which a particular job operates. Qualifications analysis should be done by a personnel technician. Obviously these two elements cannot be neatly separated. There must be a joint effort of the personnel technician and the department head to formalize a minimum qualifications specification for each job. The department head contributes from his experience information as to the characteristics usually associated with successful performance of the job in question. The personnel technician can assist by devising practical measuring devices for these characteristics.

Concurrently with the description and classification of a job (described in Part I of this article), a qualifications specification should be drafted, setting forth the minimum amount of formal training and applicable experience and the physical and personality attributes without which success on the job would be unlikely. These should be *minimum* specifications to permit some flexibility in their application. The final check on screening done by the personnel technician rests with the department head, since he makes the final selection of a new employee.

Screening: The voice on the telephone inquiring about hospital job opportunities, or the person standing at your reception desk, very possibly will soon be an employee with whom your institution must establish an effective, long-term relationship. Begin now to lay the foundation for this relationship. Proper attention to the application and screening process will not only improve the quality of employee selection, but will do much to establish at the

(Continued on next page)

*Administrator, La Mesa (Calif.) Community Hospital, and former chairman, Community Hospital Section, Assn. of Western Hospitals.

outset the employee's feeling of confidence in the institution.

The application form is usually the first tangible instrument to enter into the screening process. In many cases, it may also be the basis for the prospective employee's initial impression of the hospital and its personnel program. It should elicit all the information necessary for a preliminary evaluation of qualifications, and should be designed to encourage the applicant to respond fully to each item.

When properly designed and used, the form serves as the major document for qualifications analysis; provides an interview guide for both the employment officer and the department head; provides the basic information needed for good personnel records after employment, and provides information necessary to match recruitment vacancies with applications held in file.

The personal interview is an essential element of the screening process. An interview should be conducted by the employment officer early in the screening process. This initial interview has a number of purposes:

To meet the applicant and make an initial appraisal of his personality and bearing

To supplement or clarify information given on the application form

To describe to the applicant the duties and responsibilities of the job

To introduce the applicant at least to the physical aspect of the institution and give him an opportunity to meet the representative of the institution.

Good interview technic proceeds from an attitude on the part of the personnel office that the interviewee is a guest in the hospital. All reasonable steps should be taken to provide a relaxed atmosphere and privacy during the interview. Additional information about the applicant's qualifications, as well as impressions gained during the interview of his personality and appearance, should be put in writing and attached to the application form.

Applicants "off-the-street" may be seen by a secretary and given information on job opportunities. They may then be provided with application forms to be filled in and returned. Except in unusual cases an interview with the employment officer should not be necessary.

The chief fault with the interview as a section technic rests with its overemphasis. Even an experienced personnel officer occasionally finds himself carried away by the impression made by an interviewee who later proves to be unqualified. Although personal interviews are an essential part of the screening process, no decision should be made on the basis of interview impression alone. Final selections should be made only after interview impressions are balanced by a point-by-point comparison of the training and experience of the applicants under consideration and after references have been consulted.

References should be contacted either by telephone or letter to supplement and verify the information given by the applicant. A check list of questions should be prepared in advance of the reference contact, and notes made for the records of the responses.

Promotion from within: A firm policy should be established and set forth in writing to the effect that vacancies are to be filled, whenever possible, by promotion of a lower-ranking employee. It should be understood by department heads that the primary recruitment source of the hospital is its currently employed personnel, and that the prompt release of an employee selected for a higher-ranking position in another department serves, in the long run, the best interest of the entire organization.

Such a policy offers a number of definite advantages to the hospital. Some of the important ones are:

Maximum utilization of personnel resources may be approached more closely if the highest stratum of competence in each employee is engaged by the job to which he is assigned. An employee working below his level of ability represents a certain waste of manpower, and usually lacks a feeling of job satisfaction.

A formal, working system by means of which employees are advanced within the organization should contribute to a career attitude toward employment in the hospital. Such an employee attitude throughout the organization will do much to enhance the working spirit of the organization and to reduce costly personnel turnover.

Recruitment of new employees is held to the lower or beginning level jobs for which recruitment is not as difficult and in which the unproductive orientation period is not as great a burden.

Candidates for promotion need not be limited to the department in which the vacancy occurs. Qualified employees anywhere in the hospital should be considered eligible candidates. However, normal lines of promotion should be observed whenever possible.

Selection of successors to supervisory and other key positions in the hospital should not wait until a termination has been announced. The pattern of promotion possibilities within the organization must be subjected to continuous re-evaluation and change, but, ideally, at any given moment there should be identified one or more logical successors to each key position. Admittedly, this ideal can never be fully realized, but it represents the goal toward which the administration of an internal promotion system should be directed.

The job classification system, when combined with a system for position control, gives the hospital a detailed table of organization. This table, in addition to its uses in staffing analysis and budget control, should serve as a foundation for inventory of personnel resources and employee promotion planning.

EMPLOYEE RELATIONS

The personal adjustment of employees to their working environment can often be facilitated and problem situations avoided through individual counseling. The peculiar characteristic of this personnel service is that its vitality depends on the inclination of employees to avail themselves of it. Little more can be done than to keep an open door and a sympathetic ear ready—the initiative rests with the employee. The extent to which employees bring problems that they feel they cannot discuss with their supervisors to the personnel office may be considered a rough measure of the confidence which the personnel program has inspired in them.

It is considered good practice by many in the personnel field to establish formal grievance procedures to provide recourse for employees who believe that they have been unfairly treated. These procedures should be written and should clearly define the types of situations in which they may be used. In an organization with an effective and well-accepted counseling activity, however, recourse to formal procedures will be extremely rare.

The interpretation and application of personnel policies is a part of the role of line supervisors. Such matters as approval of leaves of absence and departures from established policies or rules should be subject to the review and recommendation of the personnel office.

Exit interviews are an important source of information for management. Everyone leaving the employment of the hospital should be given a careful and complete interview. Only with the benefit of such interviews can turnover statistics be intelligently interpreted and action to reduce turnover be formulated. Exit interviews also serve as a source of information to identify trouble spots in the organization, weaknesses in selection technics, and special training needs.

Service pins and other devices for giving special recognition to employees contribute to their feeling that their work is appreciated and to the pride which they take in their association with the institution. A house organ may contribute significantly to employee communication, especially in a large organization, but the staff time and expense involved in such a publication usually does not produce as great a return as a like amount invested in the more basic personnel activities.

INSERVICE TRAINING

Every hospital, regardless of size, has a training function to be performed. Often training is conducted in an informal, unorganized way and may not even be recognized as such. But the performance of the function in some manner can scarcely be avoided.

New employee orientation: The systematic introduction of a new employee to his working environment in the hospital is a key step in establishing sound employee relationships.

Many hospitals have adopted the practice of providing each new employee with a folder or brief manual describing the hospital, its activities, and its policies. An employee beginning work in the hospital is called upon to learn many new things all at once. Often questions will arise about matters that have already been explained to the employee. Therefore, to avoid embarrassment to the employee and to save the time of other personnel, it is desirable to provide written material to which the employee may refer for basic information about his new job. The manual or folder should include such material as:

A floor layout of the hospital showing the location of the cafeteria, elevators, and locker rooms, on which the employee's work station can be marked

An organization chart of the hospital

Information on such matters as hours of work, leave, holidays, and paydays

Statements of policies concerning illness, vacations, leaves of absence, lunch periods and coffee breaks, parking facilities, etc.

Another effective device in new employee orientation is that of assigning the new employee to work side by side with an older employee in the unit for perhaps his first week on the job. The assigned "big brother" or "big sister" should guide the new employee in becoming acquainted with the hospital and should be available to answer questions as they arise. The person selected for this purpose should have been employed long enough to be thoroughly familiar with the organization. He should be in a position similar in type and rank to that of the new employee, and should have a friendly and helpful disposition and a wholesome working attitude.

Larger hospitals in which the volume of employment warrants a group approach to employee orientation may supplement the measures mentioned above by giving orientation lectures. Material presented may cover the history of the institution, its organization, operations, and policies. Generally, such lectures can add to the orientation program, but will not substitute for a written manual or for a friendly interest displayed in the employee's own unit.

Substantive training: Efficiency and quality of performance can be improved in certain departments through formal training of personnel in work methods and procedures.

For example, a course of training may be developed for nonprofessional personnel in the nursing department, involving lectures and demonstration of standard nonprofessional nursing procedures. These could be followed by return demonstrations to test the proficiency of individual employees until the desired standards are achieved.

The housekeeping department is another department in which formal training programs have been found beneficial. Such training would cover cleaning procedures, use of cleaning agents, and safety measures. Considerable economies in time and materials can be achieved through such training.

Substantive training activities should actually be conducted by the department involved. However, it is appropriate and desirable for the personnel office to provide advice in training methods, arrange for space and teaching materials needed, and coordinate such programs to prevent overlapping and duplication of training activities.

(Continued on next page)

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Personnel development: Under this general heading are included the activities of the personnel office designed to assist employees to prepare themselves for higher level positions. Such activities may include:

Assisting such departments as nursing, laboratory, and x-ray in obtaining guest lecturers, films, and other educational features for departmental staff meetings.

Advising and assisting employees who need additional college or technical course work for a degree or registration.

Planning special training or on-the-job experience to prepare individual employees for promotion.

PERSONNEL RECORDS

Personnel records should be maintained which will facilitate management control, provide a record of each employee's service with the hospital, and serve as a source of information for recruitment and planned promotion.

The authorized table of organization and incumbency records relate directly to management control. A visible card record arrangement by department is suitable for this purpose.

Individual employee folders should be maintained. Each should contain the application form, notes on interviews and references, papers relating to promotions and special commendations, results of periodic performance ratings, and other documents pertinent to the service history of the employee. Employee folders usually should be filed alphabetically.

Canvassing of personnel resources to locate special skills and select candidates for promotion can be facilitated by the use of a service record card. This card is in effect an abstract of the employee folder emphasizing specific training, experience, special interests, and unusual skills. Colored tabs may be used to flag the most significant factors. In large organizations, a marginally punched card for needle sorting may be used to advantage.

Employee health records should be kept in individual employee folders and usually are maintained in the employee health office. These should include reports of preemployment physical examinations, x-ray and laboratory examinations, and records of illnesses and accidents during employment.

ASSIGNMENT OF PERSONNEL FUNCTIONS

So far we have dealt with what can be done in personnel management and, in general, how it should be done. We turn now to the question of who should do it and where in the organizational structure the function should be located.

The volume of personnel activity and the number of persons who can reasonably be engaged in it will vary directly with the size of the hospital. In the small community hospital, personnel inventory, promotion planning, training, and related records can be fairly simple and need not occupy much staff time. Large hospital organizations may profitably develop these functions to the extent that a full-time personnel technician is required.

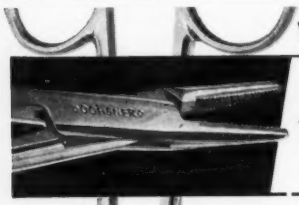
The functions described in this article are fairly homogeneous in terms of the skills and knowledge required and the approach to their execution. They constitute therefore a logical combination of functions for assignment to a single person. One professionally qualified personnel technician, with necessary clerical and typing assistance, can successfully administer this program in an organization of 300 to 400 employees.

In smaller hospitals, the addition of other assignments, such as direction of volunteer activities and public relations, is appropriate. Hospital organizations from 100 to 300 employees may very profitably employ an administrative staff officer whose position combines these activities. This type of personnel program also makes a suitable assignment for an assistant administrator or an administrative resident in a small community hospital.

Job classification and salary administration, although they provide a necessary foundation for employment, employee relations, and training programs, are more closely allied in operation to the controllership functions. It is usually more advantageous, therefore, to combine job classification and salary administration with budget analysis and organization and methods analysis than with the personnel functions.

In a very large hospital organization, a personnel technician may be engaged in each of these two program areas and may report to an assistant administrator or to a full-time director of personnel.

Regardless of the specific manner in which these assignments are distributed, it should be emphasized that they should be considered major management functions. Too often the personnel program in the hospital takes the form of a purely clerical activity and is relegated to an office in the basement. The benefits which can accrue to the organization from a modern personnel management program cannot be realized under these circumstances. The person to whom responsibility for the personnel program is delegated should be a key member of the management team, and should be located in the administrative area of the hospital.



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Ready Reference of Hospital Facts

For Planning and Operation

Part XVIII

By Louis Block, Dr. P.H.

Tuberculosis Hospitals in the United States

● From 1946 to 1954 the activities of the tuberculosis hospitals in the United States have shown a decreasing tendency. This is especially true when one notes the following changes that have occurred in the number of facilities available, their utilization, finances and personnel. They now account for 5.3 percent of all hospitals; 4.7 percent of all beds; 4.5 percent of the average days of care provided; 0.4 percent of all admissions, and 4.0 percent of all expenses.

Facilities:

1. The number of hospitals has decreased by 44 (from 412 to 368)—a decrease of 10.7 percent.

2. The number of beds has decreased by 1,309 (from 74,867 to 73,558)—a decrease of 1.7 percent.

Utilization:

1. The average daily census has increased by 5,994 (from 54,696 to 60,690)—an increase of 11.0 percent.

2. The percentage of occupancy has increased from 73.1 percent to 82.5 percent.

3. The number of admissions has increased by 4,501 (from 84,734 to 89,235)—an increase of 5.3 percent.

Finances:

1. Total assets have increased $161,829,000 (from $322,416,000 to $484,245,000)—an increase of 50.2 percent.

2. Total expenses have increased $115,220,000 (from $91,273,000 to $206,493,000)—an increase of 126.2 percent.

3. Total expenses per patient day have increased $4.75 (from $4.57 to $9.32)—an increase of 103.9 percent.

4. Payroll expense has increased $80,393,000 (from $47,500,000 to $127,893,000)—an increase of 169.2 percent.

5. Payroll expense per patient day has increased $3.39 (from $2.38 to $5.77)—an increase of 142.4 percent.

Personnel:

1. The number of full-time personnel has increased by 13,345 (from 35,854 to 49,199)—an increase of 37.2 percent.

2. The number of full-time personnel per 100 patients has increased by 15 (from 66 to 81)—an increase of 22.7 percent.

The following presents some pertinent facts concerning the average government tuberculosis hospital in the United States.

The Average Government Tuberculosis Hospital in the United States*

Facilities:

1. Number of beds	235
2. Number of major operating rooms	2
3. Number of minor operating rooms	2

Utilization:

1. Number of annual adult admissions	277
2. Average daily adult census	196
3. Percentage occupancy	83.3
4. Average adult length of stay in days	257.2

Financial:

1. Total assets	$1,531,298
2. Plant assets	$1,431,705
3. Percent plant assets of total assets	93.5
4. Total annual expenses	$665,985
5. Total expenses per patient day	$9.33
6. Annual payroll	$423,585
7. Payroll per patient day	$5.94
8. Percent payroll of total expenses	63.7
9. Percent hospitals requiring funds for replacement	74.6
10. Number of $ per hospital required for replacement	$509,422

Services:

1. Percent of hospitals offering:	
a. Blood bank	22.9
b. Cancer clinic	3.8
c. Central supply room	55.0
d. Children's education program	38.2
e. Clinical laboratory	88.5
f. Dental department	79.0
g. Electrocardiograph	66.8
h. Electroencephalograph	1.1
i. Hospital auxiliary	14.9
j. Library, medical	68.7
k. Library, patient	89.3
l. Medical record department	79.4
m. Mental hygiene clinic	4.2
n. Metabolism apparatus	51.5
o. Occupational therapy department	72.9
p. Outpatient department	81.3
q. Pharmacy	55.3
r. Physical therapy department	12.2
s. Postoperative recovery room	26.3
t. Premature nursery	0.8

*Based on information in American Hospital Association's Administrators Guide Issue (1951-1955).

u.	Radioactive isotopes	0.8
v.	Rehabilitation department	54.6
w.	Social service department	57.6
x.	X-ray diagnosis	96.2
y.	X-ray routine chest on admission	95.0
z.	X-ray therapy service	5.3
aa.	Organized training programs for auxiliary nursing personnel	12.8

Personnel:

1.	Number of full-time personnel	158
2.	Number of full-time personnel per 100 patients	81
3.	**Nursing personnel**	
a.	Total graduate nursing personnel	17
(1)	Administrative graduate nursing personnel	1
(2)	Full-time instructors	0
(3)	Supervisors and assistants	3
(4)	Head nurses and assistants	4
(5)	General duty nurses, full-time	8
(6)	General duty nurses, part-time	1
(7)	Nurses not classified	1
b.	Private duty nurses	0
c.	Practical nurses	17
d.	Attendants	34
e.	Nurse aides	24
f.	Ward maids	10
g.	Orderlies	11
4.	**Medical technologists:**	
a.	Registered, full-time	1
b.	Registered, part-time	0
c.	Other full-time	1
d.	Other part-time	0
5.	**X-ray technicians:**	
a.	Registered, full-time	1
b.	Registered, part-time	0
c.	Other full-time	1
d.	Other part-time	0
6.	**Occupational therapists:**	
a.	Registered, full-time	1
b.	Registered, part-time	0
c.	Other full-time	1
d.	Other part-time	0
7	**Physical therapists:**	
a.	Registered, full-time	1
b.	Registered, part-time	0
c.	Other full-time	1
d.	Other part-time	0
8.	**Dietitians:**	
a.	Full-time	2
b.	Part-time	0
9.	**Medical social workers:**	
a.	Full-time	1
b.	Part-time	0
10.	**Pharmacists:**	
a.	Full-time	1
b.	Part-time	0
11.	**Medical record librarians:**	
a.	Registered, full-time	0
b.	Registered, part-time	0
c.	Other full-time	1
d.	Other part-time	0
12.	**Other medical record personnel:**	
a.	Full-time	2
b.	Part-time	0

DEPARTMENTAL

Governing board:

1.	Number of members	6

Medical staff:

1.	Percent hospitals with chief of staff	82.8
2.	Percent hospitals with chiefs of services	40.9
3.	Percent hospitals with written set of staff regulations	50.4
4.	Percent hospitals with regularly scheduled meetings of staff	75.4
5.	Percent hospitals with standing committees of the staff	18.1
6.	Percent hospitals with executive committee of staff	14.0
7.	Percent hospitals with medical record committee of staff	15.4
8.	Percent hospitals with credentials committee of staff	7.4
9.	Percent hospitals with tissue committee of staff	4.9
10.	Percent hospitals with education committee of staff	10.9
11.	Percent hospitals with pharmacy committee of staff	9.1
12.	Percent hospitals with dietary committee of staff	6.7
13.	Percent hospitals with nursing committee of staff	10.2
14.	Percent hospitals with other committees of staff	6.3
15.	Number of staff physician appointments	16

(Continued on next page)

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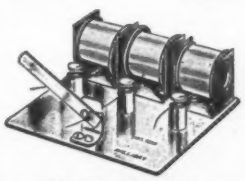

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16. Number of active staff 6
17. Number of active staff per 100 beds 3
18. Number of associate staff 0
19. Number of associate staff per 100 beds 0
20. Number of courtesy staff 1
21. Number of courtesy staff per 100 beds 1
22. Number of consultant staff 8
23. Number of consultant staff per 100 beds 3
24. Number of honorary staff 0
25. Number of honorary staff per 100 beds 0
26. Number of other staff appointments 0
27. Number of other staff appointments per 100 beds 0
28. Percent hospitals having psychiatrist on staff 31.9
29. Percent hospitals reporting surgical restrictions on staff 69.9
30. Percent hospitals permitting non-staff members to practice in hospital 16.6
31. Percent hospitals providing examining rooms for ambulatory patients of medical staff 13.1
32. Percent hospitals having private physicians' offices in hospital or on hospital grounds 6.6
33. Percent hospitals having x-ray facilities available to private ambulatory patients of staff 45.6
34. Percent hospitals having laboratory facilities available to private ambulatory patients of staff 33.6

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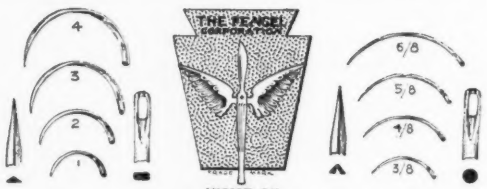

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Administrator:

1. Percent hospitals in which chief administrative officer is a physician 83.7
2. Percent hospitals in which chief administrative officer is a graduate nurse 9.5
3. Percent hospitals in which chief administrative officer is other than a physician or nurse 6.7
4. Percent hospitals in which chief administrative officer is a graduate of college course in hospital administration 4.4
5. Percent hospitals in which chief administrative officer is a male 79.3
6. Percent hospitals in which chief administrative officer is a female 20.7
7. Percent hospitals in which one or more persons perform full-time as assistant administrator 55.5
8. Percent hospitals having administrative staff member on duty at night 35.9
9. Percent hospitals delegating administrative responsibility to night supervising nurse 51.8

Laboratory:

1. Percent hospitals having all tissue removed at surgery routinely examined by a pathologist 84.9
2. Percent hospitals having urinalysis on all admissions 98.7
3. Percent hospitals having blood count on all admissions 94.8
4. Percent hospitals having serological examinations for syphilis on all adult admissions 94.8
5. Percent hospitals having electrocardiographs on all admissions over 45 years of age 7.8
6. Percent hospitals having Rh grouping on all pregnancy cases 25.9
7. Percent hospitals having preoperative blood groupings on all surgical cases 55.2
8. Percent hospitals having preoperative coagulation on all tonsillectomies 14.7
9. Percent hospitals having postoperative urinalysis on all surgical cases 48.7
10. Percent hospitals having no tests without doctors' orders 0

Pharmacy:

1. Percent hospitals operating pharmacies 54.5
2. Of those hospitals operating pharmacies, percent having full-time licensed pharmacist 32.8
3. Of those hospitals operating pharmacies, average number of full-time pharmacists 1
4. Of those hospitals operating pharmacies, percent manufacturing parenteral solutions 6.7
5. Percent of hospitals having formulary 54.2

Outpatient Department:

1. Percent hospitals having one or more outpatient clinics 79.6
2. Number of annual clinic visits 4,770
3. Number of annual private outpatient visits 0
4. Number of annual emergency visits 95

Medical Records:

1. Percent hospitals microfilming medical records	2.4
2. Number of annual deaths	21
3. Number of annual autopsies	6
4. Percent autopsies of deaths	29.4
5. Number of annual deaths released to legal authorities	3
6. Percent hospitals using Standard Nomenclature of Diseases and Operations	85.7

Admitting:

1. Percent hospitals using typewriter system for duplicating admitting records	68.4
2. Percent hospitals using mimeograph system for duplicating admitting records	0.4
3. Percent hospitals using liquid and gelatin system for duplicating admitting records	1.2
4. Percent hospitals using plate imprint system for duplicating admitting records	0.0
5. Percent hospitals using hand entry system for duplicating admitting records	11.9
6. Percent hospitals using other systems or combinations of above for duplicating admitting records	18.1
7. Percent hospitals routinely treating the following types of patients:	
a. Alcoholics	0.4
b. Cancer	3.5
c. Cardiac	3.1
d. Dermatologic	1.9
e. Drug addiction	0.4
f. Epileptic	0.8
g. Gynecologic	2.3
h. Isolation (Contagion)	1.5
i. Leprosy	0.0
j. Medical	3.5
k. Mental deficient	0.0
l. Neurologic	1.2
m. Obstetric	2.3
n. Ophthalmic	1.9
o. Orthopedic	3.1
p. Otorhinolaryngologic	1.9
q. Poliomyelitis	1.2
r. Psychiatric	1.2
s. Surgical	5.4
t. Tuberculosis	100.0
u. Urologic	1.9
v. Venereal disease	2.3
w. Acutely ill	62.0
x. Chronically ill	98.1
y. Students exclusively	0.0
z. Convalescent and rest	12.2
aa. Geriatric	3.3
bb. Industrial	2.8
cc. Pediatric	13.1
dd. Prisoners exclusively	0.9

Accounting:

1. Percent hospitals with ending date of fiscal year in:	
a. January	0.0
b. February	0.0
c. March	3.2
d. April	0.4
e. May	3.6
f. June	49.6
g. July	0.0
h. August	1.6
i. September	1.2
j. October	0.0
k. November	2.0
l. December	38.4
2. Percent hospitals which calculate depreciation	34.3
3. Percent hospitals which fund depreciation	22.6
4. Percent hospitals operating under formal budgets	96.9
5. Percent hospitals using AHA chart of accounts	20.5

Purchasing:

1. Percent hospitals with central purchasing department	84.9

(Continued on next page)

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2. Percent hospitals with central purchasing departments with full-time purchasing agent 35.1
3. Percent hospitals with central purchasing department with part-time purchasing agent 58.4
4. Percent hospitals with central purchasing department with no reply as to purchasing agent 6.5

Public Relations:

1. Percent hospitals using booklet for employees 15.1
2. Percent hospitals using booklet for patients 51.9
3. Percent hospitals using regularly published house organ 20.4
4. Percent hospitals using printed annual report 44.2
5. Percent hospitals using patient opinion poll 15.9
6. Percent hospitals using personnel opinion poll 5.6
7. Percent hospitals using medical staff opinion poll 6.9
8. Percent hospitals using community opinion poll 0.4
9. Percent hospitals using none of these (5-8) 78.5

Dietary:

1. Percent hospitals with central food service layout 81.5
2. Percent hospitals with decentralized food service layout 19.7
3. Percent hospitals with selective menus for all patients 13.9
4. Percent hospitals with selective menus for private patients only 0.0
5. Percent hospitals not offering selective menus 86.1
6. Percent hospitals with manual and centralized dishwashing 4.4
7. Percent hospitals with manual and decentralized dishwashing 6.0
8. Percent hospitals with mechanical and centralized dishwashing 69.8
9. Percent hospitals with mechanical and decentralized dishwashing 25.0

Laundry:

1. Percent hospitals operating own laundry and processing all soiled linen 67.3
   a. Number of pounds processed per week 10,281
   b. Number of pounds processed per patient day 4.3
2. Percent hospitals operating own laundry and processing only a part of soiled linen 0.0
   a. Number of pounds per week 0
   b. Number of pounds per patient day 0
3. Percent of hospitals not operating own laundry 32.7
   a. Number of pounds processed per week 5,764
   b. Number of pounds processed per patient day 3.8

Auxiliaries:

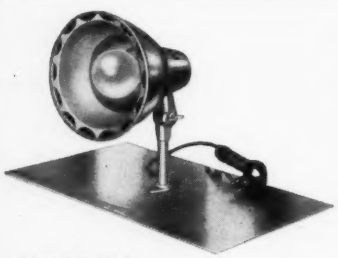
1. Percent hospitals having organized auxiliaries 16.2

Safety:

1. Percent hospitals with organized safety committee 37.9
2. Percent hospitals with written fire emergency and evacuation plans 50.7
3. Percent hospitals with regularly scheduled fire drills 32.0
4. Percent hospitals having own written plan for mobilization of employees and medical staff 27.2
5. Percent hospitals whose written plan is integrated in master community plan 25.9
6. Percent hospitals represented on a community disaster planning committee 48.2

Religious:

1. Percent hospitals with a chapel 57.0
2. Percent hospitals with a meditation room for prayer 25.8
3. Percent hospitals with organized visiting clergy staff 66.0
4. Percent hospitals having chaplains available 32.3
5. Percent hospitals with full-time chaplains 30.2
6. Percent hospitals with part-time chaplains 60.0
7. Percent hospitals with chaplain on call only 31.7



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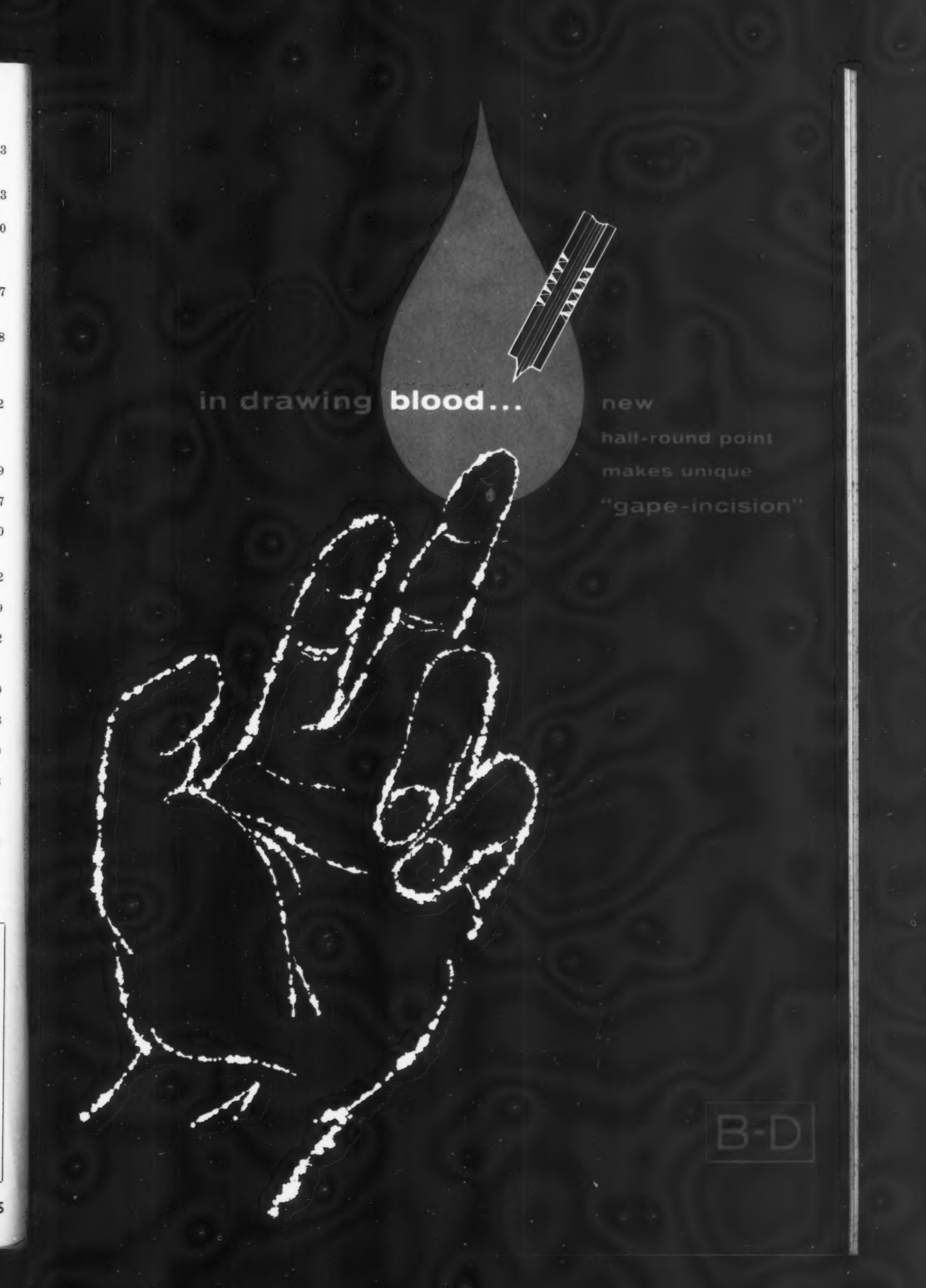
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makes unique
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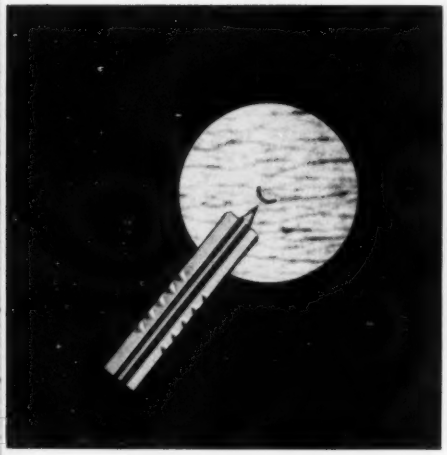
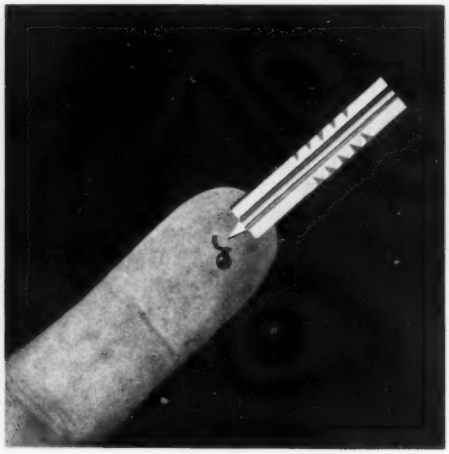
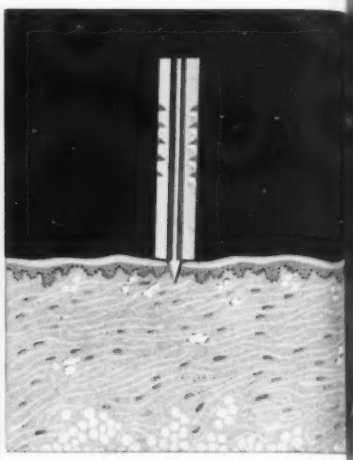
B-D sterile disposable blood lancet

unique "gape-incision" gives you...







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Result—an easier and immediate yield of an adequate flow of blood.

minimal dilution

The "gape-incision" of the B-D LANCET makes "milking" of the finger tip unnecessary—just gentle pressure.

Result—a minimal dilution of the blood by tissue fluids—a truer specimen of the patient's blood.

controlled penetration

Side flanges of the B-D LANCET automatically control depth of penetration. The angle and length of the point ensures that incision is in region of densest capillary supply.

Result—easy penetration—fewer tactile corpuscles traumatized—minimal pain.

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- **sterile—ready for immediate use**
- **hermetically sealed in pre-formed foil**
- **translucent top for positive point location**

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#433 "250" PACKAGE—Consists of 50 strips of 5 LANCETS each, individually perforated.

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CALENDAR OF MEETINGS

(Continued from page 10)

22-25 American Dietetic Association, Dinner Key Auditorium, Miami, Fla.

23-25 Florida Hospital Association, Institute on Hospital Accounting, Monte Carlo Hotel, Miami Beach

26 American College of Osteopathic Hospital Administrators, St. Louis, Mo.

26-30 American Heart Association, Sherman Hotel, Chicago

27-30 Association of Military Surgeons of the U. S., Hotel Statler, Washington, D. C.

27-30 American Osteopathic Hospital Association, St. Louis, Mo.

27-31 American College of Osteopathic Surgeons, Jefferson Hotel, St. Louis, Mo.

28-30 Ontario Hospital Association, Royal York Hotel, Toronto, Can.

30-Nov. 1 California Hospital Association, Lafayette Hotel, Long Beach

NOVEMBER

4- 6 American Association of Blood Banks, Hotel Sherman, Chicago

4- 8 American Association of Inhalation Therapists, Hollender Hotel, Cleveland, O.

6- 8 Maryland-District of Columbia-Delaware Hospital Association, Hotel Shoreham, Washington, D.C.

11 American Hospital Association Institute, Housekeeping, King Edward Hotel, Toronto, Can.

11 American Hospital Association Institute, Medical Record Library Personnel, Sheraton-Plaza Hotel, Boston, Mass.

11 American Hospital Association Institute, Nursing Service Administration, Princess Kaiulani Hotel, Honolulu, Hawaii

11-15 American Public Health Association, Auditorium, Cleveland, O.

13 Connecticut Hospital Association, Conn. Light & Power Co., Berlin

14-15 Kansas Hospital Association, Broadview Hotel, Wichita

14-15 American Hospital Association Institute, Operating Problems in Small Hospitals, The Bessborough Hotel, Saskatoon, Can.

14-22 Seventh Congress, Pan-Pacific Surgical Association, American Hospital Association Institute, Honolulu, Hawaii

15-16 Virginia Hospital Association, Hotel Chamberlin, Old Point Comfort

17-22 Radiological Society of North America, Palmer House, Chicago

18-22 Pan American Medical Association, Mexico City, Mexico

18-22 American College of Hospital Administrators, New England Institute, Somerset Hotel, Boston

DECEMBER

2- 6 American College of Hospital Administrators, Advanced Institute, Ambassador Hotel, Los Angeles

3- 6 American Medical Association (Clinical Meeting), Commercial Museum, Philadelphia

7-12 American Academy of Dermatology and Syphilology, Palmer House, Chicago

26-31 American Association for Advancement of Science, Murat Temple, Indianapolis, Ind.

JANUARY 1958

23-24 Alabama Hospital Association, Hotel Stafford, Tuscaloosa

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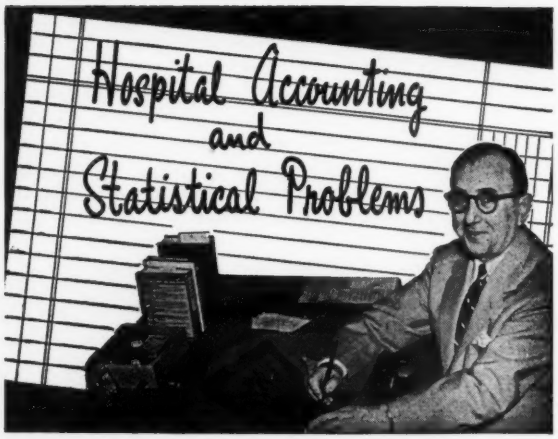


By David H. Tarlow, C.P.A.

Senior Partner, D. H. Tarlow & Co.

Hospital Accountants and Auditors, New York City

Q. How should income be handled on ambulance charges, when a hospital has an annual contract with the city and/or county for such services? In some of these cases the hospital collects a charge, and in many cases no collection is made.

A. The first step would be for you to have a proper account in the income section of the general ledger to reflect the regular income received from the city and/or the county. Charges to patients for ambulance service should be handled as any charge for special services, such as laboratory or x-ray.

In some instances we have found that collections for such ambulance charges are subject to refund to the city or the county. If this condition exists at your hospital, care should be taken in establishing the allowance to grant in case the bill for total services is not paid. We would recommend that you review your method of accruing such income with a fiscal officer representing the city or the county concerned.

* * * * *

Q. In our cafeteria, we sell meals to employees at cost. Is the income we receive therefor a logical credit direct to "Food Purchased," or should the collections from this source be apportioned to "Food, Salaries and Other Expenses"?

A. Since it is evident that all three factors enter into the preparation and serving of food in the cafeteria, it would appear to be incorrect to credit the total amount to the Food Expense account and difficult to apportion the income to the related expense accounts. We recommend that income from meals sold in the cafeteria be credited to an income account.

If cost data are available, the resultant loss from meals served in the cafeteria should be apportioned to the related departments based on the meals served to the various employees of those departments. On the other hand, if raw food is sold in some instances to employees, such is properly shown as a credit to the Food Purchased account.

* * * * *

Q. In taking over a new position, I naturally studied the latest balance sheet prepared for our hospital. I found one item listed as a contingent asset in the current section in the amount of $750. Upon examination I learned that this represented supplies originally costing $1,500 which we could not use and which were being negotiated for return, since their marketability was doubtful.

Since I have not previously encountered the term contingent asset, I would appreciate any assistance you can give in the accounting treatment thereof.

A. It would appear that the term contingence has not been properly applied. The term is not used in relation to value but as to status. Therefore, the supplies should be included in your inventory computation at the lower of cost or market.

In practice, a nominal value is assigned to such supplies. In order to be classified as contingent, there must be doubt as to their availability to the hospital. For example, if you received a note in payment of a bill and discounted the note with your bank, the hospital assumes a contingent liability. If the maker of the note does not pay upon maturity, the hospital endorser then becomes liable for repayment to the bank.

At the time of assuming the contingent liability, the hospital actually acquired a contingent asset, since it may be able to collect from him, or look to him for payment if it is forced to redeem his dishonored note.

* * * * *

Q. Can you advise us whether corporations may make contributions in one calendar year and charge this deduction or contribution to a prior year's tax return?

A. Corporations which are on an accrual basis of accounting are permitted the privilege with respect to their deductions for contributions to charitable organizations. This privilege permits them to relate contributions that they may make within the first two and one-half months of any taxable year to either the preceding year or the current year, providing directors authorized the contribution in the preceding year.

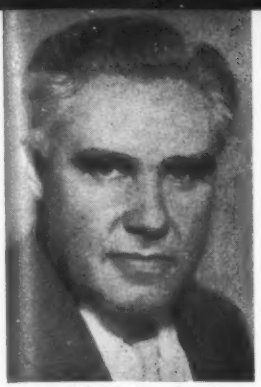
A recent decision by the Internal Revenue Department further permitted the splitting of the deduction into two years, even though it was declared in the prior year. To quote, "An election may be made in the return to treat all or only a portion of the contributions as paid during the taxable year."

If you have a specific problem with respect to the local corporation, we would suggest that you obtain legal counsel in setting up the declaration.

* * * * *

Q. When our hospital facilities were enlarged by adding to the bed complement and operating room facilities, no provision was made for additional office space. As a result, we are crowded and do not have sufficient filing space to keep records as long as required by the Statute of Limitations. Particular reference is made to paid bills for materials and supplies. Should these be filed numerically in accordance with the voucher number, or should they be filed alphabetically? Are other hospitals faced with this problem of space shortage, and if so, what steps are being taken to alleviate the condition?

A. First, we would suggest that you keep all bills filed according to voucher number until they are paid and audited. After audit, they may be filed alphabetically. If there is no room for storage in the present building, you may rent a fireproof facility for additional storage and keep accounting records for the current year and preceding year on the premises. Medical records are being microfilmed in many instances to conserve space.



John G. Steinle

Consultant's Corner

By John G. Steinle

● In the June issue we answered the question,"What are the greatest stumbling blocks to hospital accreditation?" by pointing out the "administrative deficiencies." We received the following letter from Kenneth B. Babcock, M.D., director, Joint Commission on Accreditation of Hospitals, which certainly merits publication.

"It was with a great deal of pleasure that I read your Consultant's Corner in the June issue of HOSPITAL TOPICS.

"The last question and answer is absolutely correct, but I am wondering if it gives the wrong impression, and I am wondering if the readers got the key word, 'administrative' deficiencies. Likewise, there is much overlapping on what are medical staff responsibilities and what are administrative responsibilities.

"In the 10 medical staff responsibilities which belong to that group for the most part, it still is not proper for the administrator to wash his hands and say 'these belong to the medical staff.' He is in the position of a coordinator and expediter, and if his hospital is weak in these medical staff areas he should do everything in his power to get them to correct them. The list as published is attached to this letter.

"Thank you again for your interest in our program."

In addition to the administrative deficiencies which we published in June he enclosed a list of medical staff responsibilities. For purposes of clarity the entire list is presented below.

This is a study and report of the first 100 surveys resulting in one-year accreditation (provisional accreditation) of hospitals surveyed in 1956. It is a cross-section of more than 20 states and Canada. The surveys were performed by 15 different surveyors. The deficiencies are according to order of frequency and are divided into areas of medical staff responsibilities and administrative responsibilities.

Medical staff responsibilities:

(1)	Inadequate review of clinical work	87
(2)	Inadequate medical records	66
(3)	Improperly functioning tissue committee	63
(4)	Lack of postanesthetic report	61
(5)	Autopsy rate below 20 per cent	54
(6)	No stop order on dangerous drugs	46
(7)	Inadequate preoperative work-up	39
(8)	Inadequate operative report	29
(9)	No M.D. assistant at major operations	15
(10)	Unsigned medical records	14

Administrative responsibilities:

(1)	No mass casualty plan	61
(2)	Operating room registry incomplete	50
(3)	Lack of fire plan and drills	48
(4)	No pathology index	42
(5)	No x-ray index	35
(6)	Fire hazard present	30
(7)	No medical record index	27
(8)	Inadequate medical library	21
(9)	Lack of nurses' meeting and minutes	17
(10)	No written applications	14

We certainly agree with Dr. Babcock. The effective administrator must be responsible for all elements of the hospital operation—those matters which relate to medical staff as well as those that relate to matters indentifiable as strictly administrative.

Q. Has a plan been tried whereby certificates are issued for all or part of donations for capital construction and are redeemable in payment for hospital care?

A. This has been tried a number of times. Generally it is not a good plan because it places a tremendous financial burden on the hospital. The certificates are usually redeemed during the first years of operation of the new hospital or addition, when cash income is needed most. In effect, this plan makes the hospital pay for capital construction out of earnings, and concentrates the payment out of earnings in the first years of operation. It adds to the difficulty in planning the operating budget, because the time and amount of redemption for each year is unknown.

Q. How many presses should be provided in a laundry of a 200-bed hospital?

A. Assuming that all finishing is on a piece basis, that is, press operators are paid for piece work, two presses will be needed if there is not a school of nursing, and four if there is a school.

Q. Who should make the agreement with the pathologist and radiologist—the administrator or the board?

A. The actual contract should be made by the board. The administrator should gather information and data such as:

● Method of payment of reimbursement used by other hospitals in the area.

● The effect that various methods of payment or reimbursement will have on the hospital's income and expenses.

● The income that the pathologist and radiologist will receive from the various methods.

● The effect the various methods will have on the organization and administration of radiology and the laboratory.

The administrator must have continuous effective and friendly relationships with the pathologist and radiologist. These relationships can be disturbed if the pathologist or radiologist believes that the administrator was responsible for an unfair agreement.

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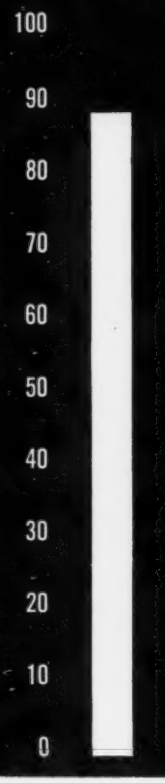

*This graph is adapted from Kempe, C. H.: *California Med.* **84**:242, 1956. The single bar designated as "Antibiotics F" represents three widely used, chemically related agents grouped together by the investigator. Strains isolated January-June, 1954.

CHLOROMYCETIN (chloramphenicol, Parke-Davis) is a potent therapeutic agent and, because certain blood dyscrasias have been associated with its administration, it should not be used indiscriminately or for minor infections. Furthermore, as with certain other drugs, adequate blood studies should be made when the patient requires prolonged or intermittent therapy.

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Review of Hospital Law Suits

Negligence is Assumed

By Leo Parker, Attorney at Law

• Some higher court cases on record have held surgeons and hospitals liable for injuries to patients without any direct testimony that the injuries resulted through negligence of the surgeon or hospital employees. Recently a higher court held a hospital liable for injurious burns to a patient with only vague circumstantial evidence to justify the decision.

In Frost v. Still College of Osteopathy and Surgery, 79 N. W. (2d) 306, testimony showed the Still College of Osteopathy and Surgery is a corporation not for pecuniary profit. It maintains a college, hospital, and clinic. In addition to use of hospital facilities by various doctors and surgeons, these facilities are used by the hospital employees.

One day a person named Frost suffered a back injury in an automobile accident, and took treatments therefor at the clinic. Dr. Fagen examined her and advised a back operation. She entered the hospital for that purpose. Dr. Fagen performed the operation which began at 9:30 a.m. Present during the operation were Dr. Fagen, the surgeon; Dr. Carl Nagy, the anesthetist; Richard Mayer, D.O., surgical resident employed by the hospital and assigned to assist Dr. Fagen, and Ruth Johnson, the hospital's surgical nurse.

Frost was placed on the operating table face down, anesthetized, and as Dr. Fagen scrubbed for the operation, Frost was prepped and draped for surgery. Dr. Fagen observed nothing objectionable about the prepping and proceeded with the operation, which took four hours. After the operation was completed, a dressing was applied to the surgical area and hospital employees returned her to her room. When Frost regained consciousness about 7 p.m., she immediately complained, "My stomach hurts just terrible." When Dr. Fagen saw Frost the next morning, he expressed surprise as he observed the burns on her abdomen.

In subsequent litigation, without any direct testimony as to how or what caused the burns, the lower court held the hospital liable in $6,500 damages. The higher court approved the verdict, saying:

> **"In the instant case plaintiff (Frost) placed herself in the care and custody of the doctor surgeon and the hospital employees or attaches, and from the time she lost consciousness until she awakened some nine and one-half hours later she did not know what instrumentalities were used on her, nor how she was injured. She knew she had received a burn on a part of her body not involved in the actual operation. It was sufficient that plaintiff (Frost) disclosed that the injury resulted from an external force applied while she lay unconscious in the hospital. It is also manifestly unreasonable to insist that she identify any one of the persons who came in or remained in the operating room or moved her back to her own room after the operation, as the person who did the alleged negligent act."**

For comparison, see Ranelli v. Society of N. Y. Hosp., 56 N.Y.S. (2d) 48. Liability of a hospital was approved by the higher court where a nurse neglected to place side boards for the bed, and a delirious patient recovering from anesthesia rolled out of bed to the floor, sustaining injuries. The court said:

"The failure of the head nurse to have side boards attached to the bed was a failure in an administrative function wherein she was acting as a servant of the hospital which was liable for her negligence."

AUTHORITY IMPLIED

I have received many letters from hospital officials and employees asking about their liability for ambulance accidents in which the driver, who had the accident, was not authorized by the hospital to drive the vehicle. Recently, I located a higher-court case to point.

In Orange Mound v. Agnew, 274 S. W. (2d) 821, a pedestrian named Agnew was killed while walking across a street. She was struck by an ambulance owned by Orange Mound. At the time of the fatal accident the ambulance, driven by John Brown, was enroute to John Gaston Hospital on an emergency call to pick up an unidentified woman.

The dependents of Agnew sued Orange Mound for $25,000 damages. During the trial Orange Mound contended that it could not be liable because the ambulance's driver, Brown, was employed solely to help around the establishment while going to school under the G. I. Bill of Rights, and that express and explicit instructions had been given to Brown not to drive any of the vehicles. Also, other witnesses testified that Brown was employed only to work around the establishment, to answer telephone calls, and to clean up, and that he had no authority to drive any of the ambulance equipment. But the testimony showed that James, the regular driver, permitted Brown to drive the ambulance.

Nevertheless, the jury held Orange Mound liable for $25,000 damages, and the higher court approved the verdict, saying:

"The jury returned a general verdict in favor of the plaintiff (Agnew) and we think there was material evidence not only to support the verdict of the jury on the theory that the driver, Brown, had express or implied authority from the owner (Orange Mound) to drive said ambulance at the time of the collision. There is material evidence to support a verdict of the jury on the theory that the ambulance driver, James, permitted Brown to drive the ambulance when he knew he had no driver's license and was incompetent to drive said ambulance on the streets."

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Blue Cross Reports On 1956 Activities

Blue Cross members received more than one billion dollars' worth of hospital care in 1956, the largest amount paid in a single year in the history of prepaid hospitalization.

"Blue Cross Report to the Nation" indicates that .93 of each subscriber's dollar was returned in the form of hospital service benefits. Nine million members received more than 53,000,000 patient days of care through Blue Cross last year.

Operating expenses for last year were lowest since the program's start over 28 years ago. Only .06 of each income dollar was used to operate the 86 Blue Cross Plans in the U.S., Alaska, Puerto Rico and Canada.

Indian Mortality Rate 'Appalling,' Nurses Told

Mortality statistics for certain diseases among 350,000 Indians who received medical care from the Public Health Service are described as "still appalling" by Mrs. Florence H. Callahan, chief consultant in nursing, Department of Health, Education, and Welfare.

At the recent convention of the National Association for Practical Nurse Education, she reported that tuberculosis rate is eight times that of the general population; trachoma is widespread, and communicable diseases are more readily contracted by Indians.

New York Nurse Wins Journalism Award

Mrs. Frances Burton Arje, a private duty nurse in New York City, has won the 1957 Mary M. Roberts Fellowship Award.

Granted annually to encourage nurses to develop their writing skills, the American Journal of Nursing Co. award entitles the winner up to $3,000 plus all tuition fees for a year's study in journalism.

Mrs. Arje plans to study at the school of journalism, Columbia University, New York City, where she is now studying for her baccalaureate degree at Teachers College.

Colman Named Secretary, TB Association

J. Douglas Colman, vice-president and secretary, National Blue Cross Association, has been elected secretary, National Tuberculosis Association.

He was formerly vice-president, Johns Hopkins University and Hospital, Baltimore, Md., and earlier served with the Hospital Service Plan of New Jersey, Maryland Hospital Service, Inc., and Maryland Medical Service, Inc.

VA Hospitals Launch Attack on Sarcoidosis

Research on sarcoidosis is being launched by VA hospitals in Atlanta, Ga.; Dallas, Tex.; Madison, Wis.; New York City, and Washington, D.C.

Frequently confused with TB, fungus diseases, and cancer, sarcoidosis occurs most often in those between 20 and 40. Characteristic nodules usually occur in the lungs, but can occur in any bodily organ.

State Street Council Names Volunteer of Year

Mrs. Samuel Mendel, Chicago, has won the State Street Council's Volunteer of the Year Award.

A women's board member, Mount Sinai Hospital, Chicago, Mrs. Mendel devoted 1,000 hours to volunteer work in 1956, much of it in the psychiatric department.

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TUNGSTEN CARBIDE EDGE DISSECTING SCISSORS

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SU-1804	Mayo Dissecting, Straight, 6¾"
SU-1813	Mayo Dissecting, Curved, 5½"
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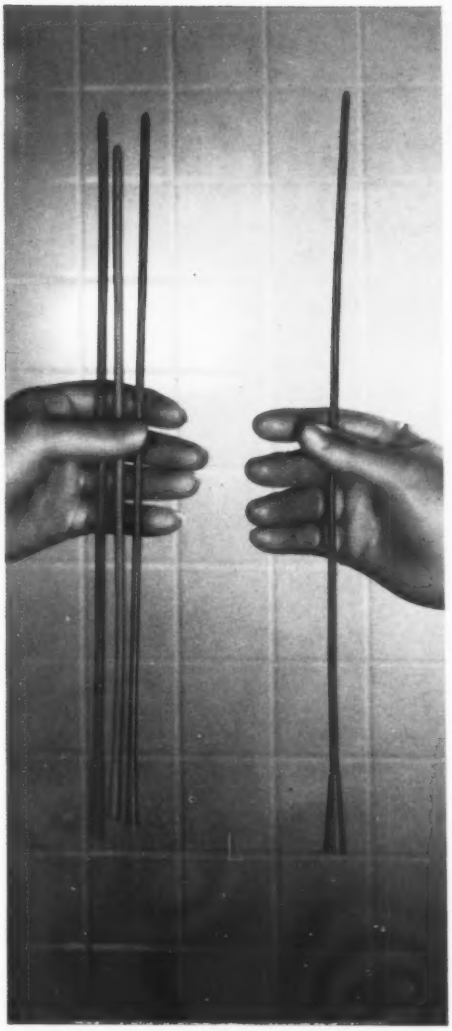

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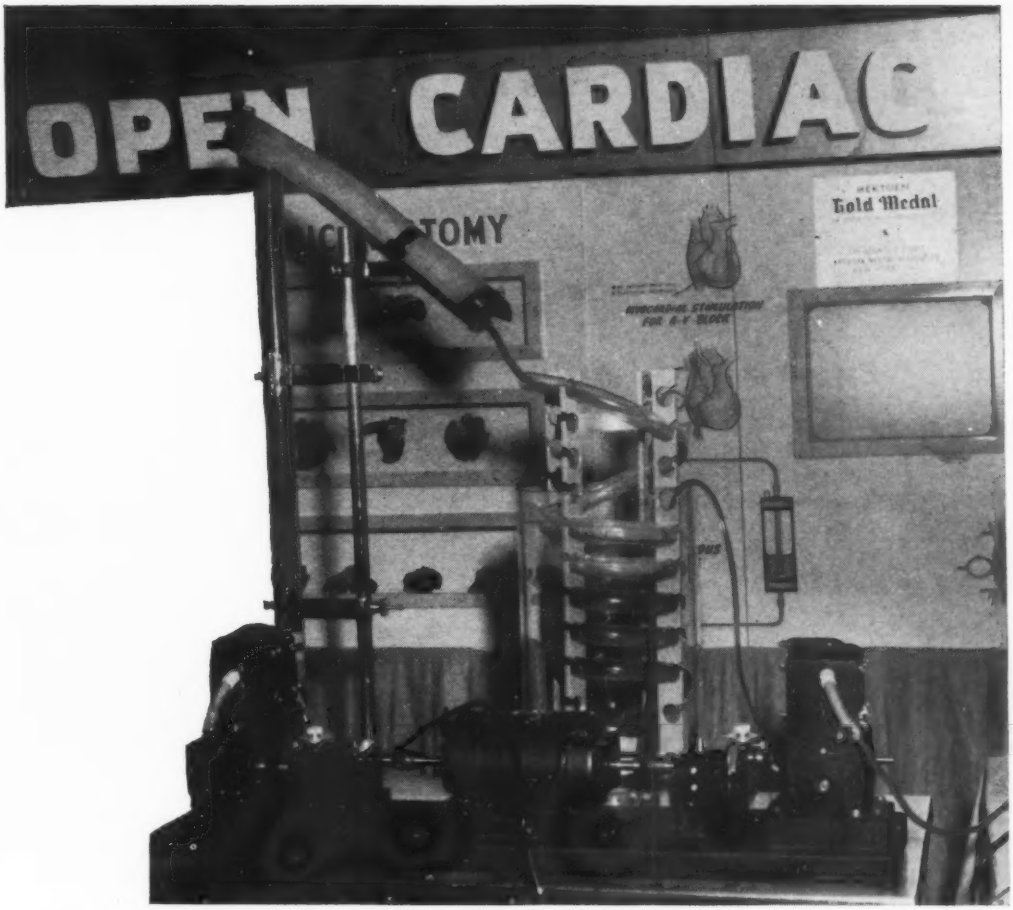
A TOPICS REPORT

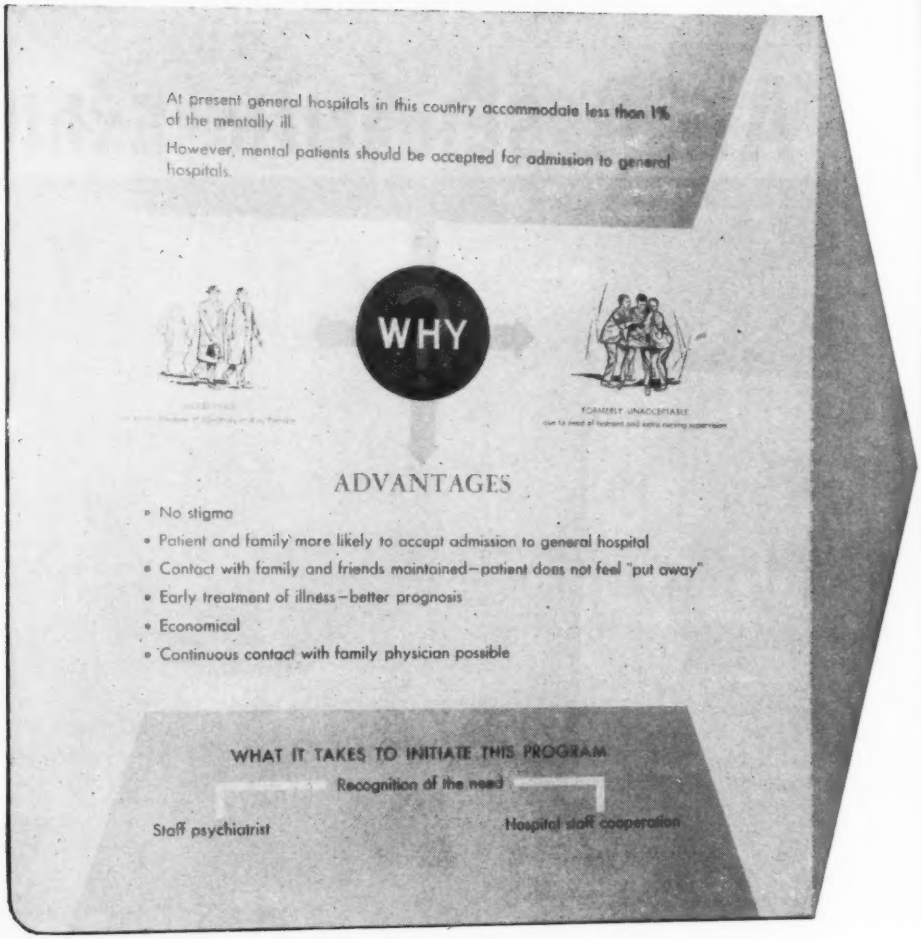
AMA Scientific Exhibits



ONE of the biggest attractions to the more than 19,000 physicians attending the 106th annual convention of the American Medical Association in New York City was the Scientific Exhibit, occupying two floors at the air-conditioned new Coliseum. This is TOPICS' fourth annual pictorial report on some of the many outstanding exhibits.

Above: Hektoen Gold Medal, for original investigation judged on the basis of originality and excellence of presentation, went to exhibit on open surgical repair of congenital and acquired intracardiac malformations, by C. W. Lillehei, M.D., and collaborators from the University of Minnesota Medical School, Minneapolis. Shown here is a model of bubble oxygenator and perfusion apparatus used.

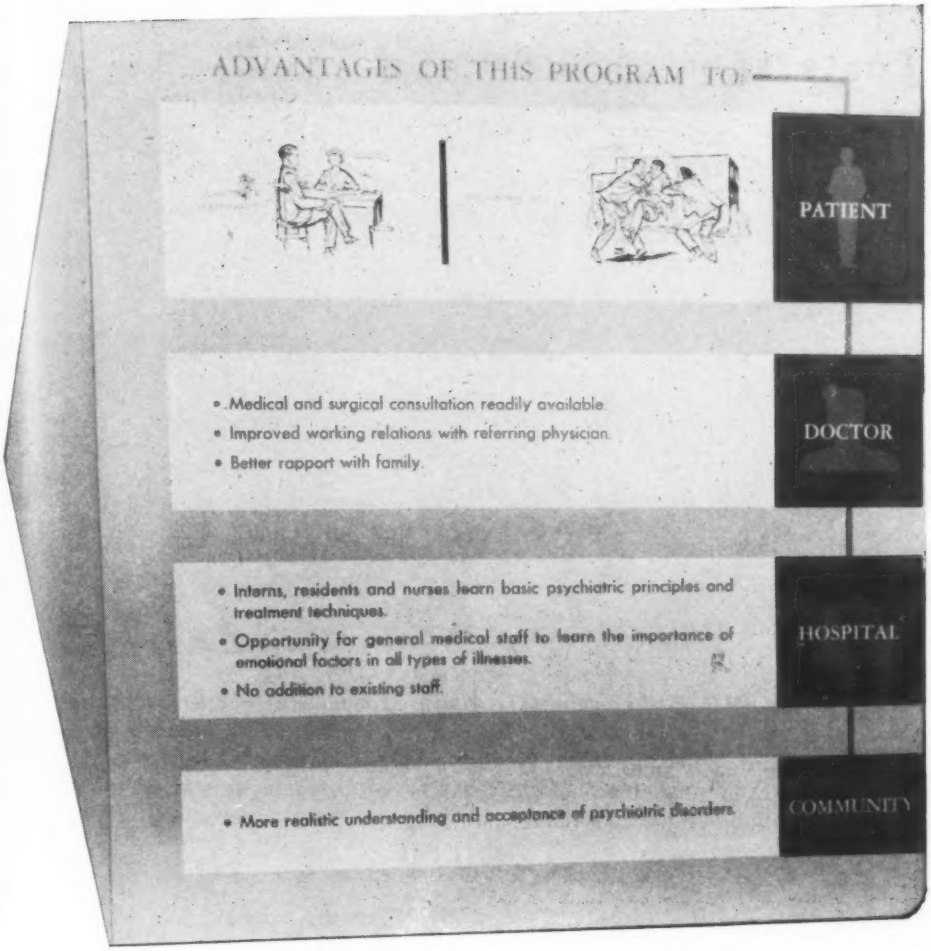
Right: R. D. Sellers, M.D. (l.) and H. E. Warden, M.D., accept award from Donovan C. Browne, M.D., New Orleans, chairman, awards committee, and Alphonse McMahon, M.D., St. Louis, chairman, Council on Scientific Assembly. Other collaborators with Dr. Lillehei were Drs. R. A. DeWall, V. L. Gott, M. Cohen, R. C. Read, R. L. Varco, and O. H. Wangensteen. Exhibit presented a composite of open cardiac surgery made possible by total cardiac by-pass and the use of extra-corporeal oxygenation at normal body temperatures, and included many of pitfalls common to application of these methods.


At present general hospitals in this country accommodate less than 1%
of the mentally ill.
However, mental patients should be accepted for admission to general
hospitals.
WHY
ADVANTAGES
• No stigma
• Patient and family more likely to accept admission to general hospital
• Contact with family and friends maintained—patient does not feel "put away"
• Early treatment of illness—better prognosis
• Economical
• Continuous contact with family physician possible
WHAT IT TAKES TO INITIATE THIS PROGRAM
Recognition of the need
Staff psychiatrist
Hospital staff cooperation

REASONS for admitting mental patients to general hospitals were advanced in exhibit by Frank J. Ayd, Jr., M.D., Franklin Square Hospital (shown above and on opposite page). Exhibit, which reported experience at the hospital during the last three years, won honorable mention in the section on nervous and mental diseases.

An exhibit by Else P. Kris, M.D., reported a significant reduction in the return rate to hospitals of mental patients given close follow-up through the Manhattan Aftercare Clinic, established by the Research

Billings Gold Medal, for correlation and presentation of facts, went to exhibit on "The Present Indications for Cardiac Surgery," by Drs. Robert P. Glover, Julio C. Davila, and Robert G. Trout, Presbyterian, Fitzgerald Mercy, and Lankenau Hospitals, and St. Christopher's Hospital for Children, Philadelphia. Award is presented by Dr. Browne (center) and Thomas G. Hull, Ph.D., secretary, Council on Scientific Assembly, to Joseph Sunner. Exhibit, which summarized symptoms, basic diagnostic criteria, longevity statistics, mortality rates, and long-term follow-up studies, was designed as a practical guide to proper selection of patients for cardiac surgery.

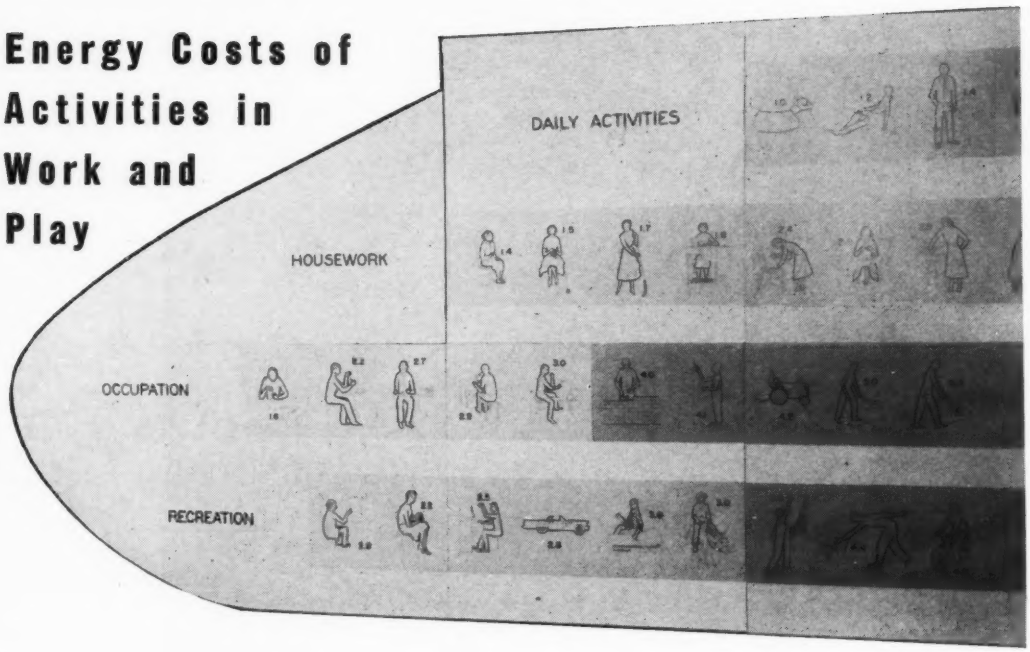

ADVANTAGES OF THIS PROGRAM TO:
PATIENT
• Medical and surgical consultation readily available.
• Improved working relations with referring physician.
• Better rapport with family.
DOCTOR
• Interns, residents and nurses learn basic psychiatric principles and treatment techniques.
• Opportunity for general medical staff to learn the importance of emotional factors in all types of illnesses.
• No addition to existing staff.
HOSPITAL
• More realistic understanding and acceptance of psychiatric disorders.
COMMUNITY

Foundation for Mental Hygiene in collaboration with the New York State Department of Mental Hygiene.

The 250 patients observed in the two-year study had been released from New York state mental hospitals after treatment with chlorpromazine, and many were on maintenance therapy with the drug. Among observations: 10 clinic patients who became pregnant while on maintenance therapy have given birth, at term, to healthy, normally developed infants.

The Hektoen Silver Medal is accepted from Dr. Browne and Frank W. Konzelmann, M.D., Washington, D. C., by Richard W. Egan, M.D., at exhibit on "Chronic Thyroiditis and Autoimmunization." Exhibit, presented by Drs. Ernest Witebsky, John R. Paine, Kornel Terplan, and Egan, and Noel R. Rose, reported on studies which showed that sera of patients suffering from chronic thyroiditis were found to contain antibodies against human thyroid extracts, as did the sera of animals immunized with thyroid extracts of their own species.

Energy Costs of Activities in Work and Play



GRAPHIC presentation of energy expended in various activities was made in exhibit by Edward E. Gordon, M.D., Michael Reese Hospital, Chicago, which was given honorable mention in the section on internal medicine. An extensive list of energy costs was presented as a guide to the physician in management of the chronically ill patient.

For TOPICS' news report on the AMA meeting, including abstracts of important papers and discussions, see the July issue, pp. 15-20.

All Photographs by

HOSPITAL TOPICS

At left: Billings Bronze Medal was given to exhibit on "The Modern Endocrine Approach to the Diagnosis and Management of the Infertile Patient," shown by Drs. Herbert S. Kupperman, Jeanne A. Epstein, Meyer H. G. Blatt, and Abraham Stone, and Donald K. Briggs, New York University-Bellevue Medical Center and the Margaret Sanger Research Bureau, New York City. Dr. Kupperman accepts award from Drs. McMahon and Konzelmann.

Therapeutic recommendations included newer products and procedures for inducing ovulation in the responsive ovary, and for establishing the diagnosis of Stein-Leventhal syndrome in the nonresponsive ovary.

Also included in the exhibit were descriptions of specified demonstrations of methods employed in establishing the role of the pituitary, the gonads, the thyroid, and the adrenals in infertility problems.

Other Top Awards

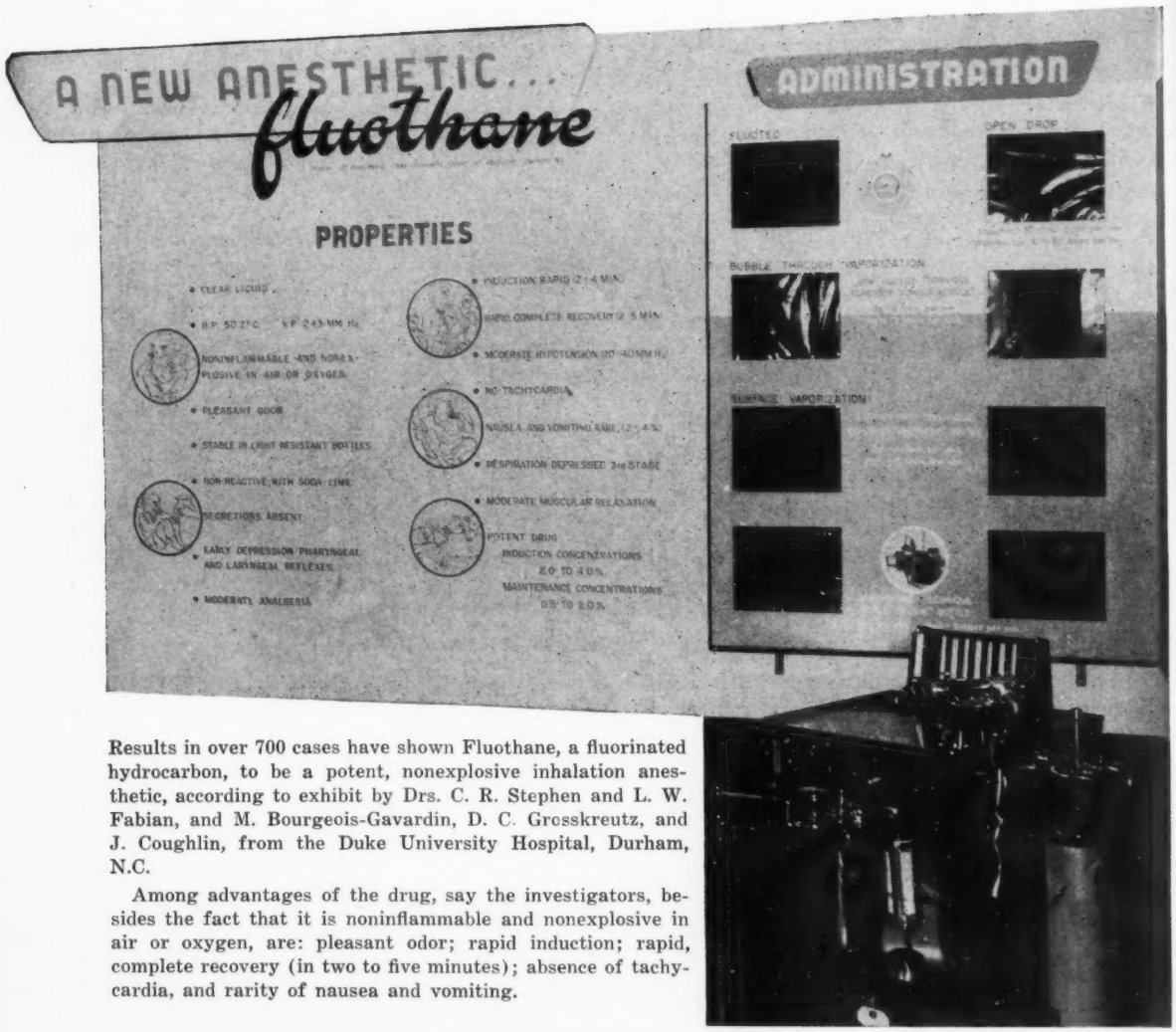
Not presented in this section because they did not readily lend themselves to photographic reporting were two of the top award winners.

The Billings Silver Medal went to the exhibit on pain patterns in abdominal diseases, by Drs. L. A. Smith, N. A. Christensen, N. O. Hanson, D. E. Ralston, R. W. P. Achor, and K. G. Berge, and A. H. Bulbulian, Mayo Clinic and Mayo Foundation, Rochester, Minn. Exhibit showed sites and behavior of pain in esophageal hiatal hernia, gastric ulcer, duodenal ulcer, gall-bladder disease, and pancreatic disease, illustrated physiologic principles underlying the transmission of pain, and summarized the favorite sites of pain and the skeletal segments in which they arise.

The Hektoen Bronze Medal was given to display by Irving S. Cooper, M.D., St. Barnabas Hospital, New York University-Bellevue Medical Center, New York City, on "Neurosurgical Alleviation of Parkinsonism and Other Extrapyramidal Disorders." Transparencies showed two original technics used for these diseases; anterior choroidal artery occlusion and chemopallidectomy. Pictures of various patients in motion before and after operations demonstrated results of these procedures.

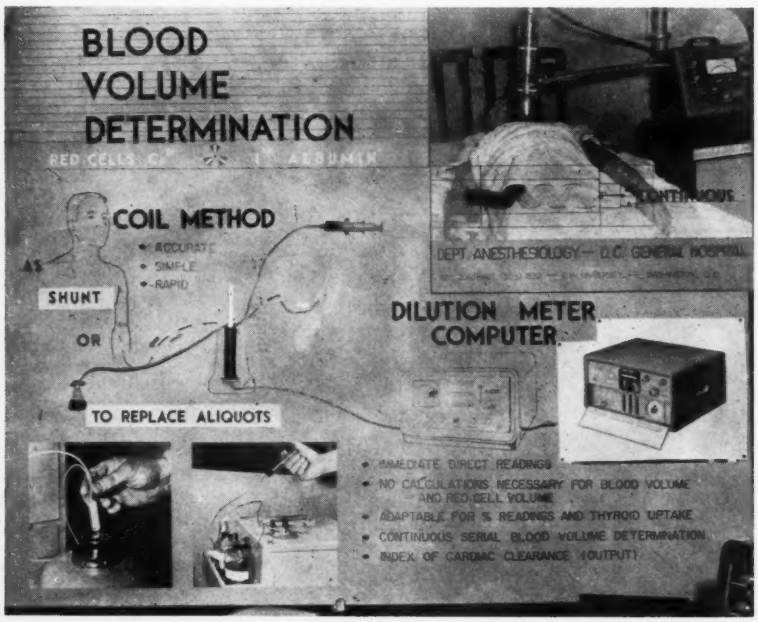
The more than 400 exhibits were assembled under the guidance of Alphonse McMahon, M.D., St. Louis, chairman, and Thomas G. Hull, Ph.D., secretary, Council on Scientific Assembly.

"THE Hands in Arthritis and Related Conditions" won a certificate of merit for Darrell C. Crain, M.D., Georgetown University Hospital, Washington, D. C., in the exhibit symposium on arthritis and rheumatism. The striking display also won for Felix Weinberg, Baltimore, Md., who prepared it, a certificate of merit for artistic preparation from the awards committee, whose members called attention to the contributions of medical illustrators and biological photographers.



Results in over 700 cases have shown Fluothane, a fluorinated hydrocarbon, to be a potent, nonexplosive inhalation anesthetic, according to exhibit by Drs. C. R. Stephen and L. W. Fabian, and M. Bourgeois-Gavardin, D. C. Grosskreutz, and J. Coughlin, from the Duke University Hospital, Durham, N.C.

Among advantages of the drug, say the investigators, besides the fact that it is noninflammable and nonexplosive in air or oxygen, are: pleasant odor; rapid induction; rapid, complete recovery (in two to five minutes); absence of tachycardia, and rarity of nausea and vomiting.



A dilution meter computer which gives direct blood volume readings and is adaptable for continuous blood-volume determinations was featured in exhibit by S. N. Albert, M.D., W. O. Swan, and W. A. Spencer, M.D., District of Columbia General Hospital, Washington, D.C.

The coil technic for measuring radioactive isotopes in solution dispenses with the use of calibrated glassware, pipettes, and test tubes, and minimizes contamination, technical errors, and constant attendance by technicians, according to the exhibitors.

A PLASTIC diorama comparing internal and external hypothermia won honorable mention in the anesthesiology section for H. B. Benjamin, M.D., Marvin Wagner, M.D., and Walter Zeit, Marquette University School of Medicine, Milwaukee, Wis., and Harry K. Ihrig, Allis-Chalmers Mfg. Co., research department, Milwaukee (see picture below).

In an effort to accomplish hypothermia more rapidly than it can be achieved through external cooling, the collaborators decided to try to lower the temperature of the animal's circulating blood in an external heat exchanger, so that the cooled blood returning to the body would act as a heat-absorbing and transferring medium.

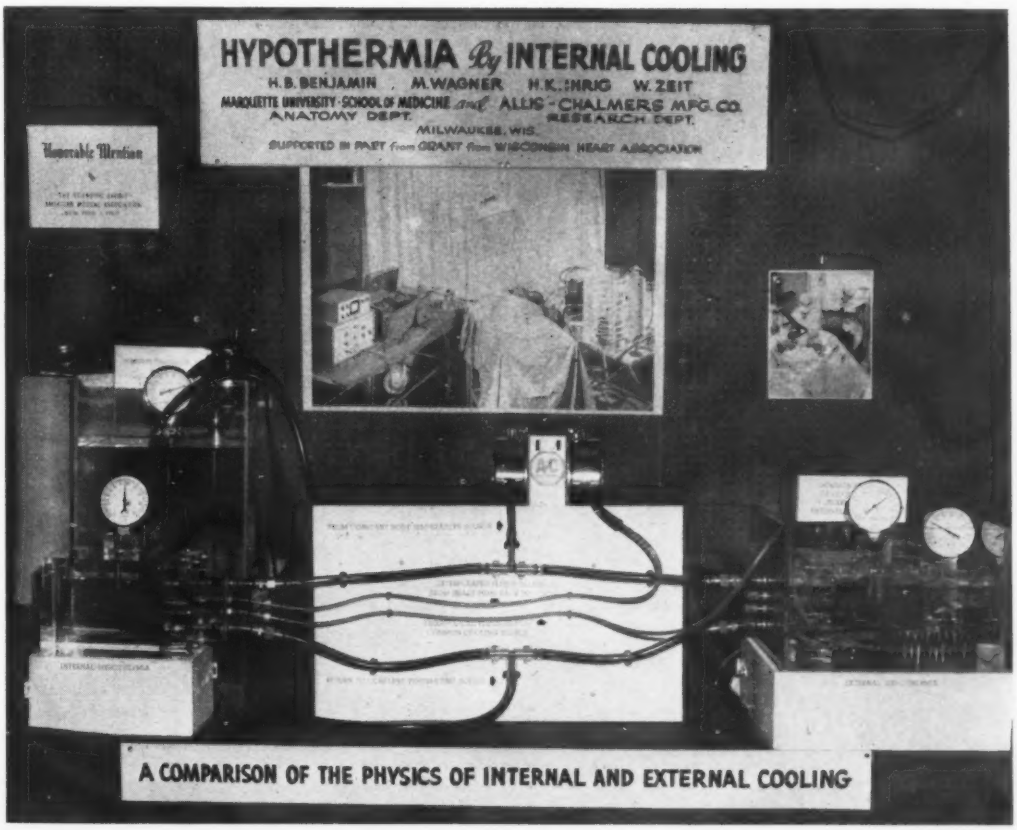
In their procedure, after minimal anesthesia with intravenous Nembutal and with tracheal intubation, the animal is connected to a respirator. The carotid artery is cannulated with a polyethylene tube that is threaded through a circulating pump and then coiled around a spindle that is immersed in a refrigerated alcohol-water bath. The return end of the polyethylene tube is then inserted in the femoral vein.

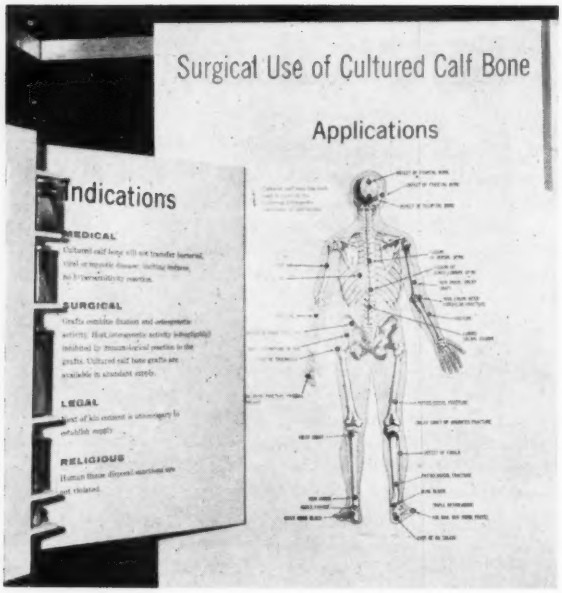
A dog is cooled from 100° F. to 80° F. in 20 minutes. No cardiac fibrillation, shivering, or shock manifestations are encountered during the procedure, the exhibitors say. Rewarming is accomplished by the use of a heating unit in the cooling bath.

• Overdosage is the most common cause of deaths from local anesthetics, according to data presented in an exhibit by John Adriani, M.D., and Donovan Campbell, M.D., Charity Hospital and Louisiana State University School of Medicine, New Orleans, La.

Most deaths occur after topical application to mucous membranes, and fatalities are largely due to rapid systemic absorption. Four to five minutes after topical application, the blood level rises to more than 50 percent of that after rapid intravenous infusion. Comparable doses infiltrated into the tissues give no detectable blood levels, the physician said.

Exhibit was awarded a certificate of merit in the anesthesiology section.


HYPOTHERMIA By INTERNAL COOLING
H. B. BENJAMIN . M. WAGNER H. K. IHRIG W. ZEIT
MARQUETTE UNIVERSITY-SCHOOL OF MEDICINE and ALLIS-CHALMERS MFG. CO.
ANATOMY DEPT. RESEARCH DEPT.
MILWAUKEE, WIS.
SUPPORTED IN PART from GRANT from WISCONSIN HEART ASSOCIATION
Honorable Mention
A COMPARISON OF THE PHYSICS OF INTERNAL AND EXTERNAL COOLING

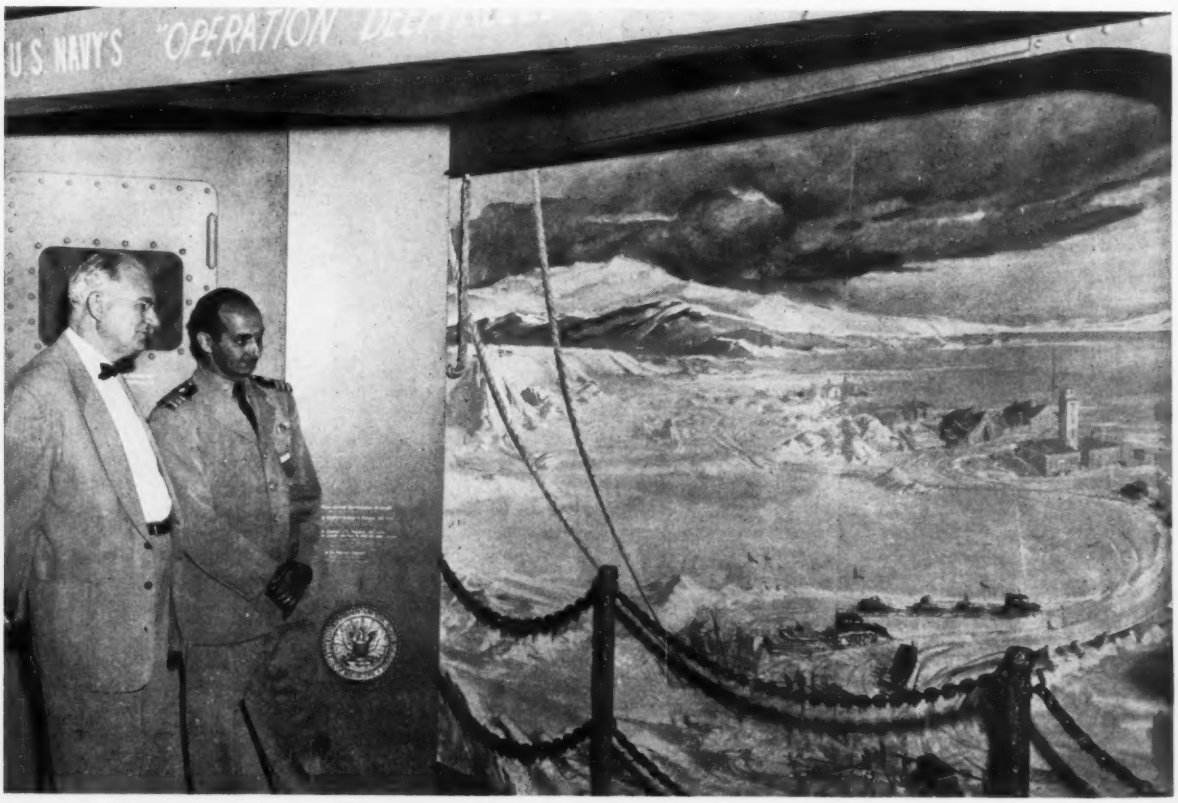


Uses of cultured calf-bone grafts were outlined in exhibit by E. J. Tucker, M.D., Houston, Tex., and William B. Fischer, M.D., Northwestern University Medical School, Chicago, which won award of merit in orthopedic surgery section.

Among advantages listed were: Bone will not transfer bacterial, viral, or mycotic disease; inciting induces no hypersensitivity reaction; grafts combine fixation and osteogenetic activity; an abundant supply is available; consent of next-of-kin is unnecessary to establish supply; human tissue disposal sanctions are not violated.

Bone is obtained from approximately 300-lb. calves passed by government inspection and tested for tuberculosis and brucellosis, and is removed by aseptic technics. After preparation, bone is incubated for five and one-half months at 40° F. It is stored at normal refrigerator temperature and shipped in containers designed to maintain constant temperature.

The role of psychiatry in the U.S. Navy's "Operation Deepfreeze II" in the Antarctic during the International Geophysical Year was described in exhibit by Drs. George E. Raines, Navy Bureau of Medicine and Surgery, Washington, D.C., and J. E. Nardini and Herman B. Molish, U.S. Naval Hospital, Bethesda, Md. Below: Cdr. Molish answers questions of William E. Dodd, M.D., Paul Kimball Hospital, Lakewood, N.J. Exhibit illustrated work of the neuropsychiatry division, Bureau of Medicine and Surgery, in developing a program of psychiatric evaluation of personnel assigned to the operation, in an attempt to measure stress tolerance of personnel in adjusting to the Antarctic environment.



HOSPITAL Trends

BY LOUIS BLOCK, Dr. P H.

Facts on Salaries

Part I

SALARIES take the biggest bite out of the hospital budget, accounting for more than 60 percent of the entire cost of running a hospital.

In planning for hospital operation through such mechanisms of control as budgets, it is important to know what has been happening to the salaries of certain hospital personnel. The annual *Hospital Salary Survey*, published by the American Hospital Association, provides such information for general-duty nurses, untrained women, untrained men, clerks, and practical nurses.

(1) General-duty nurses included only registered nurses performing general care of patients—not those doing administrative activities usually performed by head nurses or supervisors.

(2) Untrained women included persons who assist on the nursing unit, kitchen maids, cleaners, and waitresses.

(3) Untrained men included persons who assist on the nursing unit, kitchen help, and groundsmen.

(4) Clerks included the basic clerical workers who do general office work or assist in the record room or outpatient department.

(5) Practical nurses included persons registered as such by their state, or those who had a formal course of training for six months or longer, prior to their employment.

Information concerning salaries has been collected, on a broad scale, by the American Hospital Association since 1945. Some of the highlights and trends of what has been happening to the particular personnel groups from 1945 to 1954 follow:

GENERAL DUTY NURSES

Salary: The average gross starting salary increased 59 percent, from $155 in 1945 to $247 in 1954. The chances of getting a higher starting salary are generally better in the very rural and in the very large metropolitan areas; in government-owned hospitals as against nonprofit and church-owned hospitals; and in tuberculosis and mental hospitals, as against general hospitals. Size of hospital does not present any consistent pattern with regard to average starting salary for general-duty nurses.

Hours of work: The average number of hours of scheduled work per week decreased from 48 in 1945 to 42 in 1954. The chances of getting a shorter work week for general-duty nurses are generally better in the Pacific region than in any other region in the United States, in the larger hospital, and in metropolitan areas. The average number of hours of work per week was fairly consistent in all control groups and in all types of service groups of hospitals.

Vacations: The average number of vacation days after one year of work decreased from 16 days in 1945 to 14 days in 1954. The chances of getting a longer vacation after working for one year are better in the Middle Atlantic region than in any other region of the United States, and are slightly better in the larger hospitals.

There is a tendency toward equalization of days of vacation, regardless of the size of the metropolitan area in which the hospital is located or the type of hospital control or service rendered. This means that with regard to vacation days it does not make much difference whether the hospital is located in a metropolitan or rural area; whether it is a government or nonprofit or church-owned hospital; or whether it is a general, tuberculosis, or mental hospital.

Extra pay for evening shift: The proportion of hospitals giving extra pay for evening shifts to general-duty nurses increased from one hospital in five in 1945 to almost three hospitals in five in 1954. The chances of getting extra pay for such work are generally better in the larger hospital up to 300 beds in size; in large metropolitan areas; in church-owned and nonprofit hospitals as against state, county, or municipal hospitals; and in general hospitals as against tuberculosis or mental hospitals.

Extra pay for night shift: The proportion of hospitals giving extra pay for night shift increased from one hospital in three in 1945 to almost two in three in 1954. The chances of getting extra pay for night shift work are better in the larger hospitals, in metropolitan areas, in church-owned and nonprofit hospitals, and in general hospitals.

Automatic salary increases: The proportion of hospitals giving automatic salary increases increased from one hospital in two in 1945 to more than seven in 10 in 1954. The chances for receiving automatic salary increases are better in the Pacific and Middle Atlantic regions than in other regions of the country, in the larger hospital, in the metropolitan area, and in church-owned and nonprofit hospitals. There is very little difference in the proportion of hospitals offering automatic salary increases as between general, tuberculosis, or mental hospitals.

Overtime in cash: The proportion of hospitals paying overtime in cash increased from three hospitals in 10 in 1945 to better than one hospital in two in 1954. The chances of getting paid for overtime in cash are greater in the New England, Middle Atlantic, Pacific, and Mountain regions and least in the East South Central region.

(Continued on next page)

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They are better in metropolitan areas than in rural areas, and better in church hospitals and nonprofit hospitals than in proprietary or government hospitals. The proportion varied among the different size groups of hospitals with no trends being evidenced.

Uniforms: The proportion of hospitals furnishing uniforms decreased from one hospital in eight in 1945 to one in 33 in 1953.

Maintenance: The proportion of hospitals furnishing complete maintenance decreased from more than one in two hospitals in 1945 to one in 10 in 1954.

UNTRAINED WOMEN

Salary: The average gross monthly starting salary for untrained women increased 49 percent, from $92 in 1945 to $137 in 1954. The chances for getting a higher salary for this group of employees are better in the Pacific region and least in the West South Central region; better in hospitals over 200 beds in size; in government-owned hospitals as against nonprofit and church hospitals, in mental and tuberculosis hospitals as against general hospitals, and in the very rural and large metropolitan areas.

Hours of work: The average number of scheduled hours of work per week decreased from 48 in 1945 to 43 in 1954. The chances of getting the shortest work week are better in the Pacific region. Although the variations in hours of work per week were slight, the work week was shorter in the larger metropolitan areas and in tuberculosis hospitals as compared with general and mental hospitals. There was very little difference noted by size of hospital or by control group.

Vacations: The average number of days of vacation allowed after one year of work decreased from 13 days in 1945 to 12 days in 1954. Although the differential in days from place to place and area to area was slight, the chances for getting a longer vacation period were better in the New England, Middle Atlantic, and Mountain regions; in hospitals of over 500 beds, in state and municipal hospitals as compared with church-owned hospitals, and in mental and tuberculosis hospitals as against general hospitals.

Extra pay for evening, night, and split shifts: The extra pay for evening shift, night shift, and split shift was given by 20 percent, 22 percent, and six percent of all hospitals, respectively, during 1954. The chances for getting extra pay for these shifts were better in larger hospitals, larger metropolitan areas, and general hospitals.

Overtime in cash: Almost half of the hospitals pay untrained women for overtime in cash. The chances of getting cash for overtime increased with the size of the hospital and the size of the metropolitan area, and were better in church hospitals than in government hospitals, and in general hospitals as compared with tuberculosis or mental hospitals.

Automatic salary increases: The proportion of hospitals providing automatic salary increases was almost two in three. The chances for getting automatic salary increases increased with the size of the hospital and were better in tuberculosis hospitals than in mental or general hospitals. There seemed to be no definite pattern by metropolitan area size or by type of hospital control.

Maintenance: Only six percent of hospitals provided complete maintenance for this group of personnel. The proportion that offered complete maintenance increased slightly with the size of the hospital.

(Continued next month)

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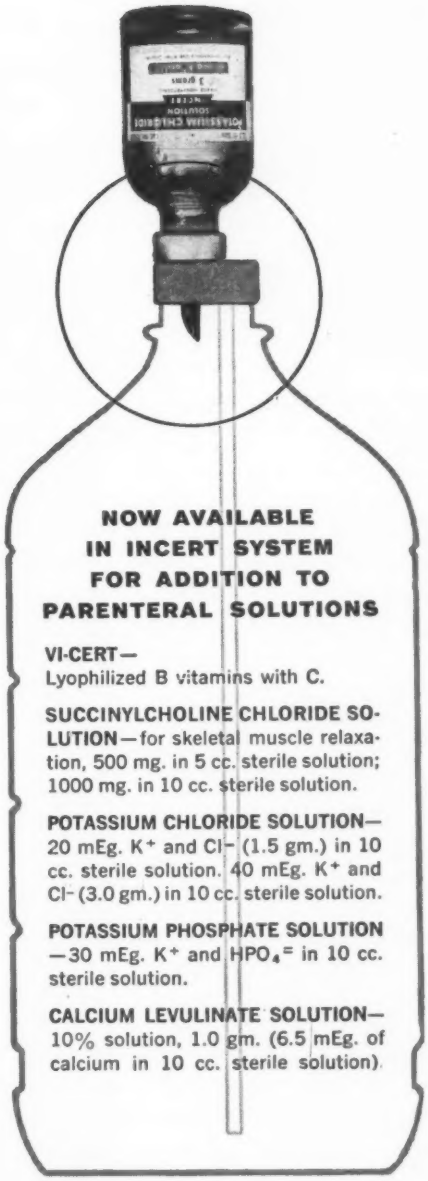

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The Book Corner

Dietetic Handbook

A DIETETIC INTERNSHIP. Chicago: American Dietetic Association. Single copies $.05, 25 copies $.75.

Recently revised and expanded, the new booklet offers facts concerning hospital, food administration, and food clinic internships. Questions most frequently asked by prospective interns are briefly answered. One copy will be sent free on request. Association headquarters are at 620 N. Michigan Ave., Chicago 11, Ill.

Inhalation Anesthesia Guide

INHALATION ANESTHESIA: A FUNDAMENTAL GUIDE. By Arthur E. Guedel, M.D. New York: The Macmillan Co. 1956. Second Edition. 143 pp. $4.25.

The author divides this revised edition into two parts. The first concerns principles of inhalation anesthesia, mechanism, stages, signs, and depth of anesthesia, and the mechanism of various anesthetic requirements.

Part two discusses anesthetic accidents. Included are accidents due to changes in blood pressure, discussions of ventricular fibrillation, central respiratory failure, and peripheral respiratory interference. There are also two chapters on aspiration of debris and two on anesthetic explosions, as well as a chapter on miscellaneous accidents and one on cyanosis.

Selected references and an index are included.

Radioisotopes Explained

CLINICAL USE OF RADIOISOTOPES. By William H. Beierwaltes, M.D., Phillip C. Johnson, M.D., and Arthur J. Solari, B.S., M.S. Philadelphia: W. B. Saunders Co. 1957. 456 pp. $11.50.

This book is primarily for physicians and technicians working with radiologists. However, the chapter on starting and managing a clinical radioisotope unit makes it a valuable reference for any hospital contemplating such a unit.

The authors consider space, equipment, and location for both large and small units, and include tables suggesting basic facilities and equipment when radioisotopes are procured ready for administration and when doses are prepared and calibrated locally. They also discuss initial costs and expenses of upkeep for units of various sizes, and potential growth of the services.

Detailed suggestions are included for protection of hospital personnel against radiation hazards encountered in caring for patients receiving radioactive therapy.

A sample instruction sheet for nurses shows the amount of time per day which they may safely spend near the patients undergoing therapy.

Another chapter in the book gives rules and technics to protect personnel working in the unit.

Authors emphasize that the physician in charge must be a competent clinician, preferably a well-trained internist or radiologist. Above all, he must be interested enough to take time off to receive proper training and continue to devote time and energy to working out personnel and technical problems arising in administration of such a rapidly changing and growing service.

The University Hospital, Ann Arbor, Michigan, Clinical Radioisotope Unit, has formed the basis for this illustrated text. An appendix lists the other university medical centers which offer formal clinical radioisotope training courses.

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Alcoholism More Prevalent Among TB Patients

Fourteen to 40 percent of admissions in TB sanitariums are alcoholics, according to Dan Morse, M.D., medical director, Peoria (Ill.) Municipal Sanitarium.

Speaking at the annual meeting of the National Tuberculosis Association, Dr. Morse said alcoholism was 35 to 50 times more prevalent in TB patients than in the general patient.

Although drugs have reduced TB deaths per 100,000 from 200 to nine, alcoholics kept alive longer infect more victims, including alcoholics.

Arteriosclerosis Now Number One Killer

Arteriosclerosis is listed as America's deadliest disease in a booklet published by the National Health Committee, New York City.

The disease is described as 19 times deadlier than pneumonia, and 52 times deadlier than tuberculosis. Ninety-three percent of deaths from heart disease are caused by arteriosclerosis, according to the booklet.

Rehabilitation Fellowship Open to British M.D.

The World Rehabilitation Fund has announced a $5,000 grant, the Smith, Kline & French Laboratories Fellowship in Rehabilitation, to permit a physician from Great Britain to come to the United States for a minimum of one year's postgraduate training in rehabilitation of the physically handicapped.

The recipient will receive training in the department of physical medicine and rehabilitation, New York University-Bellevue Medical Center, New York City.

Grant Aids Study of Rehabilitation Centers

A $30,000 grant for a study on the economics of rehabilitation centers has been made by the United States Office of Vocational Rehabilitation to the National Society for Crippled Children and Adults.

The National Society will contribute an additional $21,000 toward the cost of the study, which will survey operating costs and income of centers providing care and treatment for the crippled.

Dean W. Roberts, M.D., the society's executive director, said, "This study proposes to secure data on sources of community financial support for rehabilitation centers, and hopes to lead to standard accounting practices for use by such centers."

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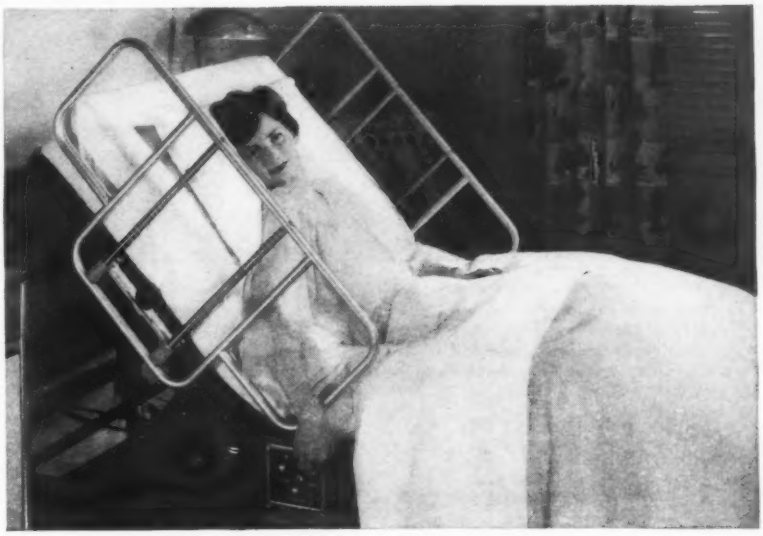
by either patient or nurse



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Now ready . . . **Procedure Manual No. 3—"Hilow Beds"** by Alice L. Price, R.N., M.A., Nurse Consultant for Hill-Rom, and author of three leading textbooks on nursing, also P.M. No. 1, "Safety Sides—A New Safety Measure" and P.M. No. 2, "The Recovery Bed, Labor Bed, Special Therapy Bed." Copies of any of these manuals for student nurses and graduate nurse staff will be sent on request. Address: Miss Alice L. Price, Hill-Rom Co., Inc., Batesville, Indiana.

TRADE TOPICS . . .

New representatives for S. Blickman, Inc., are (l. to r.): Harold Bialock, Warren G. Armstrong, and John LaRowe. Mr. Bialock has been appointed factory representative for Arkansas, Kansas, Louisiana, Missouri, Nebraska, Oklahoma and Texas. Mr. Armstrong will cover Illinois, Indiana, Iowa and Michigan. Formerly he was associated with E & J Mfg. Co. Mr. LaRowe is representative for Alabama, Georgia and South Carolina.

American Sterilizer Names Nurse Consultant

Mrs. Arlene B. Howe, R.N., is the first to be named to the newly established nurse consultant staff, American Sterilizer Co. She was formerly administrative assistant, department of nursing, University Hospital, Ann Arbor, Mich.

Make Executive Changes in Upjohn Marketing Staff

New executive personnel assignments in the marketing division, Upjohn Co., include Joseph J. Canon, former assistant director, domestic branch sales, now marketing staff administrator, and Jack C. Gauntlett, assistant marketing staff administrator, in addition to being director of advertising.

Other appointments are: William G. Freeman, formerly assistant director, now director, domestic branch sales; William C. Sugg and Richard P. Sellman, assistant directors, domestic branch sales, and Alfred C. Scott, formerly general sales staff manager, now manager of a newly-created hospital sales unit.

* * *

Other promotions at Upjohn are: Jack Campbell, sales manager, Kalamazoo branch; E. V. Lindstrom, divisional sales manager, Los Angeles branch; James M. Williams, sales supervisor, eastern Los Angeles district; Gerald M. Bean, sales supervisor, southwest Texas district, Don Johnson, former New York branch office supervisor, office manager, and W. L. La Fortune, former sales supervisor, divisional sales manager, Denver branch.

Ethicon Elects New Chairman, President

Richard B. Sellars has moved up from president, Ethicon, Inc., to chairman, board of directors, succeeding Philip B. Hofmann. Mr. Hofmann is now chairman of the executive committee, board of directors, Johnson & Johnson, the firm's parent company.

Bee

Sellars

Succeeding Mr. Sellars as president is A. J. Bee, formerly executive vice-president.

Parke-Davis Announces Election Results

Parke, Davis & Co. has announced election of a new executive committee, a new director, and four officers.

Heading the executive committee is Cleveland Thurber, board member since 1939. Other members are Harold W. H. Burrows, also elected vice-president, administration; Harry L. Pierson, John B. Ford, and Harry J. Loynd, the company's president.

Newly elected director is Thomas C. Anderson, vice-president and director of production and engineering.

In addition to Burrows, new officers are Kenneth D. McGregor, vice-president, secretary, and general attorney; David E. Mitchelson, vice-president and treasurer, and Charles A. Erdman, controller.

American Cyanamid Picks Regional Managers

Robertson

Henry M. Robertson is now southeastern regional sales manager, Surgical Products Division, American Cyanamid Co. Assistant regional sales manager for the New England region is Ernest Benton.

V. Mueller Announces Personnel Changes

V. Mueller & Co. is establishing a Chicago division separate from the company's general offices.

John C. Denison, formerly assistant to the president, becomes general sales manager. John Peters, formerly office manager, becomes Chicago division manager. Office manager, Chicago division, is John Westrich.

Richard Simmons, former assistant purchasing agent, is purchasing agent. Elmer Shea will be manager of government and export sales.

R. J. Semple (l.), product director, Ethicon, Inc., gives Paula Mark and Sally Kelly, both of St. Mary's Hospital, Kankakee, Ill., information at the Ethicon-Fenwal workshop, held in conjunction with the American Society of Medical Technologists meeting.

Dixie Cup Co. is merging with American Can Co. Below, William C. Stolk (second from r.), president, American Can Co., is greeted at the Dixie Cup Co. plant by (l. to r.): George Madge, vice-president and controller, American Can Co.; C. L. Van Schaick, president of Dixie; Hugh Moore, founder of Dixie and finance chairman, and Cecil F. Dawson, Dixie Cup chairman. Mr. Dawson and Craig Moore will be members of the board of American Can Co.

Johnson & Johnson Names Hofmann, Lienhard

Philip B. Hofmann has been elected chairman, executive committee, board of directors, Johnson & Johnson, succeeding Gen. Robert Wood Johnson, who remains chairman, board of directors.

Hofmann

Lienhard

G. O. Lienhard is new corporate treasurer and vice-chairman, executive committee. He succeeds N. L. Smith as treasurer. Mr. Smith, who is also vice-chairman of the board, is retiring after 33 years.

Purdue Frederick Cites Medical Educator

George W. Dana, M.D., medical staff director, New England Center Hospital, Boston, and medical director, Bingham Associates program for postgraduate medical education in the New England area, has been named first recipient of the Medical Achievement Travel Award, presented by The Purdue Frederick Co.

Dr. Dana's projected trip abroad will include visits to medical meetings, seminars, teaching centers, hospitals, and research facilities in England, France, Italy, and Sweden.

Lily-Tulip Building California Plant

Lily-Tulip Cup Corp. has announced plans for a 325,000 sq. ft. plant to be completed the latter part of 1957 in Riverside, Calif.

Features include an underground tunnel system for service lines, air-conditioning and humidity control, and attractive employee facilities. The plant will employ between 400 and 600.

Diversey Corp. Names District Managers

New district managers in the central division, Diversey Corp., are Sidney E. Cadieu, Dunbar, Wis.; Kenneth O. Green, Monmouth, Ill.; James P. Raleigh, Overland, Mo., and Walter C. Rohn, Wilmette, Ill.

European Representatives Named By Aerojet-General

Aerojet-General Nucleonics has announced the appointment of four European representatives. They include Laboratories Derveaux, France; Koopman and Co., Holland; Pierre Balteau, Belgium, and Brenntag, West Germany.

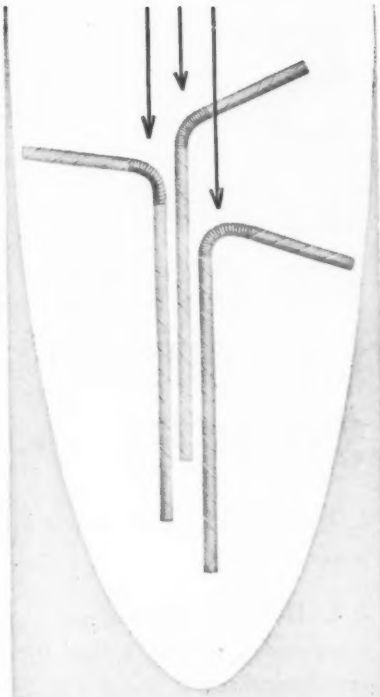
Rees Joins Castle Sales Force

David Rees is a new member of the sales force, Los Angeles office, Wilmot Castle Co. He has been resident architectural engineer on West Coast hospital projects.

Appointments Announced By Parke-Davis

New medical consultant in the research division, Parke, Davis & Co., is E. C. VonderHeide, M.D. He will

(Continued on next page)



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20 cc. 39.00 doz.	42.00 doz.

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also direct their anemia research laboratories at Harper Hospital, Detroit.

J. K. Weston, M.D. has been named director, clinical investigation department. He has been laboratory director in pathology and toxicology.

Johnson & Johnson Names Hospital Division Head

James D. Lierman has been appointed by Johnson & Johnson as director, hospital division, succeed- vice - president and division director Earle B. Dickson, who is retiring after 40 years. Mr. Lierman has been assistant director.

Lierman

American Sterilizer Occupies New Plant

Research, manufacturing, and management functions of American Sterilizer Co. are in operation in their new plant at Erie, Pa.

The building, of curtain wall construction with aluminum and glass facade, encloses 250,000 sq. ft.

Newton Named Fleet Vice-President

O. B. Newton, Jr., has been named vice-president, C. B. Fleet Co., Inc. He remains sales manager.

News Briefs

Dorothy Noyes—vice-president, Noyes & Sproul, Inc., has been named Advertising Woman of the Year by the Advertising Federation of America.

* * *

Rinaldo V. Kron, M.D.—has joined Mead Johnson & Co. as medical director, parenteral products division. He was formerly civilian medical director, Puget Sound Navy shipyard. **Michael J. Sweeney**, former associate director of the company, has been named medical director, nutritional and pharmaceutical products division.

* * *

Daniel J. Gallagher—manager, Chicago medical sales division, Eaton Laboratories, died June 13.

* * *

J. B. Roerig & Co.—division of Chas. Pfizer & Co., Inc. has moved its home office from Chicago to 800 Second Ave., New York City.

* * *

George E. Lawrence—has been named manager, Scientific Apparatus Makers Association's Washington office. He succeeds **W. C. Stevenson**, who is retiring. Mr. Lawrence was former manager, Bausch & Lomb Optical Co. Washington office.

* * *

The Bristol Co.—has moved its Pittsburgh district office to 2250 Noblestown Rd.

* * *

Michael Thomas Cronin, M.R.C.V.S.—has been named manager, newly formed department of toxicology and pathology, Schering Corp. He was previously associate pathologist, Penrose Research Laboratories, Philadelphia, and assistant professor of veterinary pathology, University of Pennsylvania.

* * *

Fischer & Porter Co.—is relocating its metropolitan New York sales office, and will be at 141 Main Ave., Clifton, N.J.

* * *

Raymond D. McMurray—has been named secretary, William S. Merrell Co.

* * *

Don Murray—former manager, Pacific Northwest district, Eaton Laboratories, has been named assistant to the sales manager of the company, in Norwich, N.Y.

* * *

Howard Haselkorn — has joined Nucleonic Corp. of America as eastern district sales manager. He was formerly with Nuclear Consultants.

* * *

Robert G. Scott, Jr. — has been assigned the Chicago territory for Purdue Frederick Co. Formerly he was with J. B. Roerig Co. **Leon Worth**, formerly southern regional manager, Testagar Co., is the Dallas representative.

* * *

A. B. Gordon — has been appointed product manager, Koroseal film and coated fabrics department in plastic products, B. F. Goodrich Industrial Products Co.

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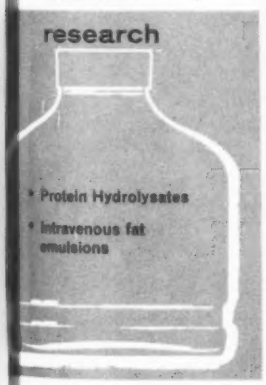
- Homeolytes
- Pediatric Solutions & Equipment
- Gastrointestinal Replacement Solutions
- Standard Solutions
- Blood Transfusion Equipment
- Parenteral Infusion Equipment
- Amigen (high calorie) Solutions

1952 research

1947 research

- Amigen Protein Solutions
- Parenteral Infusion Equipment
- Concentrated Electrolyte Solutions

1937 research



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The proportions of Amigen, Levugen® and alcohol have been carefully established to permit a practical rate of administration: 1 drop per second or 1 liter in 3 hours. At this rate of administration thrombophlebitis has not been a problem.

All patients who cannot or will not achieve effective nutritional support by oral alimentation will benefit by Amigen High Calorie Solution.

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SYMBOL OF SERVICE IN MEDICINE

Fellowships Available for Rehabilitation Counselors

Twenty-six federal grants for graduate training in vocational rehabilitation counseling will be available at New York University School of Education, New York City, for the 1957-58 academic year.

The fellowships, from $1,600 to $2,800 and financed by the U.S. Department of Health, Education, and Welfare, lead either to a doctor's or master's degree. The annual grant is renewable at the end of the first year.

Applications should be made to Dr. Roland H. Spaulding, New York University School of Education, Washington Square, New York 3, N.Y.

New York Commissioner Receives Rubin Award

Paul H. Hoch, M.D., New York State Commissioner of Mental Hygiene, in accepting the first Samuel Rubin Award of $2,500 for research and contributions to the treatment of the mentally ill, predicted "important, perhaps decisive" advances within the next decade, particularly in schizophrenia.

He also predicted closer integration of different kinds of psychiatric treatment, especially tranquilizing drugs and psychological therapies.

Samuel Rubin, donor of the award, is chairman of the lay board, Fordham Hospital, The Bronx, N.Y.

Announce Fellowships In Psychiatry

Nineteen Smith, Kline & French fellowship awards in psychiatry, totaling $16,733, have been announced by the American Psychiatric Association.

Thirteen of these will enable medical students to participate in psychiatric research or training programs this summer. Two other student programs will start in the fall.

In all, 34 undergraduates will benefit. Projects range from a study of the chemical functionings of the brain to analysis of Seattle's high suicide rate.

Institution Changes Name

The name of Boyd Sanitarium, Hillsboro, Tex., has been changed to J. E. and Rosa Boyd Hospital.

Mississippi Clinic Changes Name

The former Oates Clinic, Laurel, Miss. has changed its name to The Medical Clinic. H. W. Seefeld, Jr., is retaining his position as administrator. J. K. Oates, M.D., has withdrawn from ownership.

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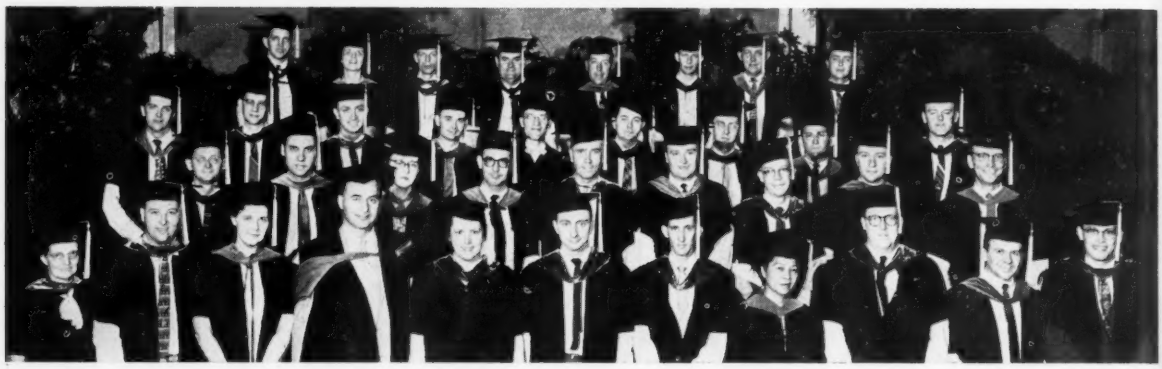

Graduates in Hospital Administration, Northwestern University, Chicago, who received master's degrees are (l. to r.) front row: Garnett Radin; Joseph Hutchinson; LaVerne Burner; Charles U. Letourneau, M.D., director of the program; Gladys Post; Thomas Byram; Rodrigo Moreno; Soledad Florendo, M.D.; Maurice Coffee; Douglas Eitel, and Arthur Malasto. Second row: Richard Stainback; James Conte; Mary Finger; William Bennett; Olof Moline; James Anderson; John Clark; William Sittler, and George Skomsky. Third row: Paul Donnelly; Joseph McGee; Marcus Drewa; Joe Greathouse; Elmer Harvey; Billy Talbert; Lawrence Davis; Donald Jacobs, and Kenneth Shouldice. Back row: Theodore Johnson; Marie Oling; James Clemens; Roland Wilpitz; Gordon Boughton; John Taft; Charles Jones, and Richard Thal. Not shown are 19 other graduates, listed with assignments elsewhere in this section.

Mrs. Ruth Akin—has been named acting nursing directress, Pima County General Hospital, Tucson, Ariz.

Marc Atkinson—has been named administrator, Sparta (Ill.) Community Hospital District.

Edwin B. Augustin—has been appointed administrative assistant, Altoona (Pa.) Hospital, where he was formerly administrative resident.

William J. Baker, M.D.—has been named president, American Urological Association. He is chief, Cook County Hospital (Chicago) urology department.

Paul C. Balcom—has been appointed assistant administrator, Franklin Square Hospital, Baltimore, Md.

Mrs. Margaret S. Barber—has been named full-time executive secretary, Mid-West Hospital Association. She has been serving as part-time administrative assistant, Bethany Hospital, Kansas City, Kan., and part-time executive secretary of the association.

Harold Bettis—has been appointed director, Moses H. Cone Hospital, Greensboro, N.C., where he was formerly assistant director.

Paul Birris—has become assistant credit manager, Western Pennsylvania Hospital, Pittsburgh, succeeding **Mr. Moran**, who is now credit manager.

Kenneth Boaden—has been named president, Illinois Council for Mentally Retarded Children.

W. Bruce Boggan—has been appointed administrator, Forsyth County Hospital, Cumming, Ga. He was formerly assistant to the director and purchasing agent, Macon (Ga.) Hospital.

Harry Bongers—formerly assistant manager, Mid-Columbia Hospital, The Dalles, Ore., has been named manager, Pioneer Memorial Hospital, Heppner, Wash., succeeding **Jack Angel**, who has resigned.

Robert H. Brandow—has been named administrative assistant, Aultman Hospital, Canton, O., succeeding **John M. Boyer**, director of personnel and community relations, who has resigned to accept a position in industry.

J. I. Brewer, M.D.—has become president, medical staff, Passavant Memorial Hospital, Chicago, succeeding **Howard A. Lindberg, M.D.** Dr. Brewer is professor, obstetrics and gynecology, Northwestern University Medical School, Chicago.

Mrs. Hoyt Bush—has been appointed supervisor of nursing service, Tunica (Miss.) County Hospital.

Henrietta Button, R.N.—has been named administrator, Good Samaritan and Lutheran Hospitals, Puyallup, Wash. She was formerly administrator, Washington Minor Hospital, Tacoma.

Margaret A. Collier—has become director of social service, Western Pennsylvania Hospital, Pittsburgh, succeeding **Mildred Lesher**, who has retired. She was formerly a casework supervisor at the hospital.

James B. Dealy, Jr., M.D.—has been named chief radiologist, Peter Bent Brigham Hospital, succeeding **Merrill C. Sosman, M.D.**, who has retired after more than 30 years' service.

Lt. Col. William A. DeFries—has been assigned to the office of the surgeon general, Air Force headquarters, Washington, D.C. He was formerly commander, McConnell Air Force base hospital. **Lt. Col. Gordon H. Rhodes**, of Harmon Air Force base, Newfoundland, will succeed him.

Robert H. Dickinson, M.D.—has been appointed medical director, Pinel Foundation Hospital, Seattle, Wash. He was formerly associate professor of psychiatry and coordinator, clinical services, University of Chicago Medical School.

Alfred Dorfman, M.D.—is medical director, La Rabida Jackson Park Sanitarium, which recently became an affiliate, University of Chicago medical department.

J. W. Dozier—has been named administrator, Henderson County Memorial Hospital, Athens, Tex.

Frank Dunning—has been named administrator, Casitas Del Sol Sanatorium, Phoenix, Ariz.

L. M. Dyer—has been named administrator, Encino (Calif.) Hospital.

Margaret Emanuel—has been named director of nursing, George Washington University Medical Center, Washington, D.C., succeeding **Helen Powers.** Miss Emanuel was formerly in charge of nursing services and the school of nursing, Luther Hospital, Eau Claire, Wis.

Herbert W. R. Emrich—has been

named administrator, Wise (Va.) Memorial Hospital. **W. Harold O'Neal** has been appointed administrator, Hazard (Ky.) Memorial Hospital, and **John Blankenbeckler** has been named assistant administrator, Harlan (Ky.) Memorial Hospital. All three institutions are part of the chain of Miners Memorial Hospitals.

Joseph F. Farrell—has been appointed associate director, Germantown (Pa.) Dispensary and Hospital, where he was formerly comptroller and assistant director.

Elinor Fay—has been appointed director of volunteers and auxiliary coordinator, Western Pennsylvania Hospital, Pittsburgh. She was formerly director of volunteers and auxiliary executive secretary, Massachusetts Memorial Hospital, Boston.

Edward J. Fitzgerald—has been appointed lay assistant administrator, Good Samaritan Hospital, Dayton, O.

Ben Goodkin—labor consultant, has been appointed director of labor relations, United Medical Service, Inc. (Blue Shield), New York City.

Byron F. Francis, M.D.—has been elected president, Washington Tuberculosis Association. He is medical director, Riverton Hospital, Seattle.

Charles F. Gratz—has become assistant administrator, Aliquippa Hospital, Pa.

William H. Graves, D.O.—was elected president, Tennessee Association of Osteopathic Physicians and Surgeons, succeeding **L. A. Mulsand, D.O.**, Townsend.

Bill L. Hamilton—has been appointed assistant administrator, All Saints Hospital, Ft. Worth, Tex. He was formerly administrative assistant, Methodist Hospital, Houston, Tex.

W. D. Hamrick—has been appointed administrator, planned new Southwest Texas Methodist Hospital, San Antonio, Tex. He was formerly first assistant administrator, St. Luke's Episcopal and Texas Children's Hospitals, Houston.

Bernard C. Harvey—has become administrator, Murray (Ky.) Hospital. He was formerly administrator, Allen County War Memorial Hospital, Scottsville, Ky.

Martin F. Heidgen, M.D.—has been appointed acting administrator, Memorial Hospital, of DuPage County, Elmhurst, Ill., succeeding **Frank Unzicker**, who has resigned.

W. Vaughn Herrin—has become administrator, Methodist Hospital of Central Illinois, Peoria, succeeding the late **W. T. Smith, M.D.** Mr. Herrin was formerly assistant executive director.

Allen M. Hicks—has become administrator, Pekin (Ill.) Public Hospital, succeeding **George T. Weber.** Mr. Hicks was formerly administrator, Schmitt Memorial Hospital, Beardstown, Ill.

(Continued on next page)

CLASSIFIED

SHAY MEDICAL AGENCY

Blanche L. Shay, Director

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POSITIONS OPEN

ADMINISTRATORS: (a) East. 260-bed general hospital. $7,500-$10,000. (b) Middle West. 105-bed hospital: Good business office exp. To $10,500. (c) East. New 50-bed hospital. (d) Pacific Coast. Prefer woman. 65-bed hospital. $5,000. (e) Assistant. South. 350-bed hospital. Principal duties, personnel and purchasing. To $7,800.

PHYSICAL THERAPISTS: (a) Middle West. 250-bed teaching hospital. $6,000. (b) East. Develop and supervise program in 250-bed hospital. $4,800. (c) Middle East. Supervise activities of well-established cerebral palsy center. $5,000. (d) Assistant to chief. Middle East. 250-bed hospital. $400 minimum.

NOTE: We can secure for you the position you want in the hospital field, in the locality you prefer. Write for an application—a postcard will do. All negotiations strictly confidential.

OPERATING ROOM SUPERVISOR—Large teaching hospital with restricted staff of board-qualified surgeons. Extensive Intern-Resident training. University affiliated School of Nursing. Large volume complicated procedures including neuro., chest and heart. M.D. anesthesiologists only. Highest qualifications and experience necessary. Career supervisor preferred. Salary upward from $450, depending on background—open to the right applicant. O.R. staff of 20 personnel. West Coast—mild climate. Write Box HT 808, Hospital Topics, 30 W. Washington St., Chicago 2, Ill.

ADMINISTRATOR IN NURSING—Master's degree. Experienced in Nursing Education and Nursing Service. 300-bed hospital, School of Nursing. Salary open varying with qualifications. Box HT 88, Hospital Topics, 30 W. Washington St., Chicago 2, Ill.

Fifty-eight officers completed the Army Medical Service School's 39-week course in hospital administration. Shown are (l. to r., top row): 1st Lt. Halbert J. Hopper; Maj. James H. Snelling; 1st Lt. James M. Crews, Jr.; Maj. Thomas Laughlin, Jr.; Maj. Walter F. Robbins; Capt. Kenneth W. Peters; Maj. Gordon F. Loebig; Lt. Col. Edwin S. Marsh; Capt. Bernard F. Bauman; Maj. Charles J. Werderman; Capt. Frederick J. Diedrich, Jr.; Lt. Col. Jerome N. Brandt; Lt. Col. John B. Plum; Maj. George J. DeGraff; Capt. Robert W. Holbrook, and Maj. Felix G. Rajecki. Second row: Lt. Col. William E. Gott; Capt. Theodore B. Drotning; Capt. Ivan B. Grimes; Lt. Col. Foster L. Watts; Maj. Ross F. Swall; Col. Esfendiar Soleymanloo (Iran); Lt. Col. John E. Burns; Maj. Leonard C. Burney; Lt. Col. Mohammad Naqi (Pakistan); Maj. Harrison G. Burnie; Maj. Robert W. Hobson; Maj. Robert L. English; Capt. Chalmers F. Kerchner; Maj. William C. Luehrs; Lt. Col. Seth H. Linthicum, Jr.; and Lt. Col. Martin A. Verzi. Third row: Maj. Bernard A. Hart; Lt. Col. Lee A. Ahr; Lt. Col. Willard W. Jones; Maj. Joseph H. Wallace; Capt. William F. Connell (Canada); Maj. Rees F. Schaller; Lt. Col. Arlice J. Moore; 1st Lt. Neil B. Hadley; Lt. Col. Harvey E. Archer; Lt. Col. Millard C. Monnen; Lt. Col. Martin Putnoi; Maj. Howard F. Vire; Col. Chang Ting Tso (Taiwan); Maj. Bernard Rappaport; Lt. Col. Edward J. McIntyre; Maj. Guy C. Nicholson, and Maj. John W. Holt. Front row: Lt. Col. Anthony J. Marsala; Maj. Enrique G. Gargurevich (Peru); Col. Wongse-Sanit Patana (Thailand); Capt. Cecelia T. Klainer; Maj. Alice E. Weinstein; Col. William A. Hamrick, director, department of administration; Brig. Gen. Elbert DeCoursey, commandant, Army Medical Service School; Lt. Col. Sam A. Edwards, assistant director, department of administration; Maj. Mary L. Burrows; Maj. Ann E. Hogan; Lt. Col. Cho Yung Sun (Korea), and Lt. Col. John B. Kegerreis.

U. S. ARMY PHOTOGRAPH

A. L. Howarth—has resigned as administrator, Mary Bridge Children's Hospital, Tacoma, Wash.

Fred T. Hunt—has been named administrator, Western Lane Hospital, Florence, Ore., succeeding **Carl Morrison**, who has resigned.

Janice Jackson—has been named supervisor, pediatric department, Mercy Hospital, Benton Harbor, Mich.

Erwin M. Japha, M.D.—has been appointed director, therapeutic radiology, Mount Sinai Hospital, Chicago, where he was formerly radiotherapist-in-charge.

Daniel I. Kahn—has been appointed assistant administrator, Culver City (Calif.) Hospital, where he was formerly administrative assistant.

Warner Kass—has been named administrator, Tallahatchie General Hospital, Charleston, Miss. Former administrator, Noxubee General Hospital, Macon, Miss., he has been succeeded there by **Walter Friday**.

Hal V. King—has been appointed assistant administrator, Salem (Ore.) Memorial Hospital.

Floyd F. Krohn—has been appointed assistant administrator, Easton (Pa.) Hospital. He was formerly administrator, Muhlenberg Community Hospital, Greenville, Ky.

C. D. Kron—has resigned as administrator, Mary Francis Skiff Memorial Hospital, Newton, Ia. No successor has been named.

Henry J. Kutsch—has become superintendent, Ravenswood Hospital, Chicago, succeeding **George Swanson**. Mr. Kutsch was formerly personnel relations manager, Passavant Memorial Hospital, Chicago.

Rodney J. Lamb—acting administrator, has been appointed administrator, Cottage Hospital, Santa Barbara, Calif., succeeding **John E. Paplow**, now administrator, Lima (O.) Memorial Hospital.

Eugene T. Lasater—has been named administrator, Ocean Beach Hospital, Ilwaco, Wash., succeeding **Philip Roth**, who has become administrator, Tri-State Memorial Hospital, Clarkston, Wash.

Johanna Leo—was appointed medical commission worker, Lutheran Hospital, Ambur, India. She was formerly staff nurse, Lutheran Hospital, St. Louis, Mo.

Homer W. Loar—has been appointed assistant administrator, Children's Hospital, Cincinnati. He was formerly assistant administrator, Good Samaritan Hospital, Lexington, Ky.

Rev. Frederick P. Loman—has become chaplain, Welborn Memorial Baptist Hospital, Evansville, Ind. He was formerly chaplain, Baptist Memorial Hospital, Memphis, Tenn.

Lillian M. McDonald, R.N.—has become administrator, Mary Bridge Children's Hospital, Tacoma, Wash. She was formerly administrator, Memorial Hospital, Sedro Woolley, Wash. **Henry S. Rogers** will succeed her. He has been administrator, White Pine County Hospital, Ely, Nev.

James McKelvey, Jr.—has become administrator, West Orange Memorial Hospital, Winter Garden, Fla. He was formerly liaison officer, Blue Cross-Blue Shield, East Coast district.

Mother Marcaria—Mother Superior and superintendent, St. Francis Hospital, Lynwood, Calif., has completed her six-year tenure and will be reassigned.

William A. Markey—has been appointed administrator, City of Hope Medical Center, Duarte, Calif., succeeding **Seymour Schulman**. He was formerly assistant administrator.

J. Robert Miller—has become administrator, Sierra View Hospital, Porterville, Calif., now under construction. He was formerly administrator, Visalia (Calif.) Municipal Hospital.

Russel H. Miller—has been appointed associate director, University of Kansas Medical Center, Kansas City, succeeding **Robert A. Molgren**, who has become administrator, St. Luke's Hospital, Kansas City, Mo.

Robert T. Moore—has been named administrator, Valley Presbyterian Hospital Medical Center, North Hollywood, Calif.

Mrs. Helen Murray, R.N.—has been appointed assistant director of nursing, McAuley Hospital, Coos Bay, Ore. She was formerly an instructor, McAuley School of Practical Nursing.

Helen Nahm—will become dean and professor of nursing, University of California, early in 1958. She is now associate director, National League for Nursing, New York City, and director, division of nursing education.

Richard L. Olsen—has been named administrator, Itasca Memorial Hospital, Grand Rapids, Minn. He was formerly assistant superintendent, Presbyterian Hospital, Albuquerque, N.M.

Lauretta Paul—has resigned as director, Pontiac (Mich.) General Hospital.

Zoe Mae Prost—has been appointed dietitian, Audrain Hospital, Mexico, Mo. She was formerly dietitian, VA Hospital, Hines, Ill.

Glenn M. Reno—has been appointed administrator, Menorah Medical Center, Kansas City, Mo., succeeding **Leon Felson**, who will continue as assistant administrator. Mr. Reno was formerly director, Children's Hospital, San Francisco.

Mrs. Virginia Rine—has become head dietitian, Yakima (Wash.) Valley Memorial Hospital. She was formerly with the VA Hospital, Oakland, Calif.

William B. Robinson—has become administrator, Ryburn Memorial Hospital, Ottawa, Ill., succeeding **Dwayne Hall**. Mr. Robinson was formerly administrator, Burnham City Hospital, Champaign, Ill.

Newly-elected officers, New Jersey Hospital Association, are (l. to r.): J. Harold Johnston, executive director and secretary, Trenton; Ralph E. Vannozzi, administrator, The Bridgeton (N. J.) Hospital, president; David V. Carter, administrator, Fitkin Memorial Hospital, Neptune, vice-president, and Nelson O. Lindley, administrator, Somerset Hospital, Somerville, treasurer. Absent was A. L. Van Horn, M.D., administrator and medical director, Kate Macy Ladd Convalescent Home, Far Hills, president-elect.

Graduates in Hospital Administration, Northwestern University, Chicago, who received awards are (l. to r.): Elmer Harvey, winner of Mary H. McGaw Award; Roy Johnson, who presented the award on behalf of Foster G. McGaw, president of the board, American Hospital Supply Corp.; Gordon Boughton, winner of Malcolm T. MacEachern Award; H. L. Cornfoot, who presented the award for Ethicon, Inc.; Gladys Post and Mary Lou Finger, who received the Fred Geck Awards, and between them, Edward Marlotte, who presented the awards for the Surgical Products Division, American Cyanamid Co.; in back, James Conte and James Clemens, who received the American Surgical Trade Association awards from Frank Rhatigan, secretary of the association (shown in front of Mr. Conte); Laura Jackson, associate director, and Charles U. Letourneau, M.D., director, Program in Hospital Administration.

James L. Rogers—has resigned as superintendent, Spartanburg (S.C.) General Hospital. Other resignations are **Hazel Williams**, superintendent, school of nursing, and **Ira Dean Lane**, director of nursing education.

Charles F. Roland, M.D.—will become supervisor of diagnostic and therapeutic work in the isotope laboratory, when it opens this fall at Burnham City Hospital, Champaign, Ill.

Bruce D. Root—has been appointed administrator, new Prairie du Chien (Wis.) Memorial Hospital.

Philip H. Roth—has become administrator, Tri-State Memorial Hospital, Clarkston, Wash., succeeding **Ralph P. Hebert**, who has resigned. Mr. Roth was formerly administrator, Ocean Beach Hospital, Ilwaco, Wash.

Albert R. Sargent—has been appointed assistant director, Children's Hospital of Buffalo, N.Y. He formerly held administrative posts at Meadowbrook Hospital and Nassau Hospital, Long Island, N.Y.

Lt. Col. John F. Schlecter—has been appointed commander, Ellington Air Force Base Hospital, Houston, Tex., succeeding **Col. Robert M. Halbouty**, who has been named commanding officer, Eighth Tactical Air Force's Hospital, and the 6160th USAF Hospital, Itazuke Air Base, Kyushu, Japan. Lt. Col Schlecter was formerly chief, urology and outpatient services, Lackland Air Force Base Hospital, San Antonio, Tex.

Seymour Schulman—has become administrator, Cedars of Lebanon Hospital, Los Angeles. He was formerly administrator, City of Hope Medical Center, Duarte, Calif.

Sister Mary Assumpta—has become administrator, St. Mary's Hospital, Quincy, Ill.

Sister M. Rosalita, R.N.—has been appointed head nurse, women's medical and surgical department, St. Mary's Hospital, Quincy, Ill. She was formerly supervisor, medical and surgical department, St. Elizabeth Hospital, Dayton, O.

Sister Mary Mercedes—has resigned as central supply director, St. Joseph Hospital, Bellingham, Wash. No successor has been named.

Sister M. Virginia—has succeeded **Sister M. Anastasia** as administrator, Pines Hospital, Knollwood, Southern Pines, N.C.

Richard H. Smith, M.D.—has become medical officer in charge, U.S. PHS Hospital (formerly Marine Hospital) Memphis, Tenn. He succeeds **Frank F. Thweatt, Jr., M.D.**, who has been assigned as medical officer in charge, U.S. PHS Out-Patient Clinic, Philadelphia.

Norman Stinehour—has been appointed controller, Charlotte Hungerford Hospital, Torrington, Conn.

Karl E. Warming—has become administrator, Hardin Memorial Hospital, Elizabethtown, Ky., succeeding **Harold Warren.**

Howard M. Winholtz—has been appointed assistant administrator, Rochester (Minn.) Methodist Hospital. He was formerly manager, Worthington (Minn.) Clinic.

Llewellyn E. Woodmansee—has been appointed controller, Manchester (N. H.) Memorial Hospital.

Nellie Wright—has become acting administrator, Ashton Memorial Pipestone County Hospital, Pipestone, Minn., following resignation of **Louisa Myklebust.**

William Wrigley—has been appointed administrative assistant, John C. Lincoln Hospital, Phoenix, Ariz.

Viola Zakman—director, nursing service, Staten Island (N.Y.) Hospital, has been appointed assistant administrator in charge of nursing services, a newly created position.

Herman F. Zimoski—has been named superintendent, Foster Memorial Hospital, Ventura, Calif., succeeding **Mrs. Gertrude Fuller**, who has retired. He has been business manager and accountant, Kaiser Foundation Hospital, Fontana, Calif.

VA Appointments

Kenneth W. Brown, M.D.—director,

(Continued on page 71)

MARY A. JOHNSON ASSOCIATES

AGENCY

11 West 42 Street, New York 36

Lackawanna 4-1565

Mary A. Johnson, Ph.D., Director

Our careful study of position and applicants produces maximum efficiency in selection. Candidates know that their credentials are carefully evaluated to individual situation, and only those who qualify are recommended. Our proven method shields both employer and applicant from needless interviews. We do not advertise specific available positions. Since it is our policy to make every effort to select the best candidate, we prefer to keep our listings strictly confidential.

We do have many interesting openings for Administrators, Physicians, Anesthetists, Directors of Nurses, Dietitians, Medical Technicians, Therapists, and other supervisory personnel.

No registration fee

BUYER'S GUIDE

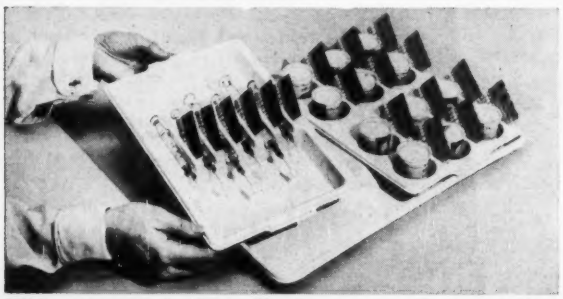
For further information on any of the products, please check the Buyer's Guide number on the reply card opposite page 72.

Barbara Work
Buyer's Guide Editor

500. Colored plaster casts

Cathy Burchfield applies Band-Aid Spot Charmers to her colored plaster cast. Designed to cheer convalescence, casts are available in red, yellow, and blue for younger patients, and in flesh tone for adults. The four colors are light enough for autographing. The new bandages come in 3" and 4" width rolls. Container of 12 rolls includes all four colors. Flesh-colored rolls are also packaged separately. Non-toxic colors are as safe as any drug or cosmetic coloring, says manufacturer. Johnson & Johnson.

501. Plastic tray set

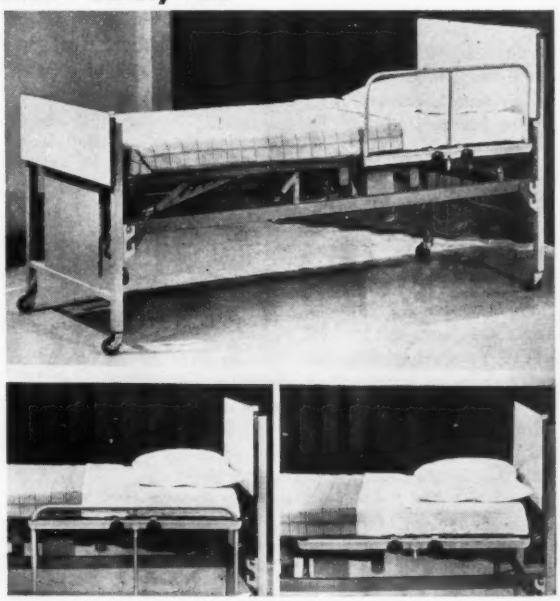


White styrene plastic medication tray set keeps medication and syringes with patients' medicine cards, for easy identification and administration. Three-piece tray is noiseless, will fit any cart. Oral medicine tray has slots so medicine cards are held adjacent to each medication. Syringe tray, with slots for medicine cards, is grooved to hold six fully loaded 2cc., 5cc., or 10cc. syringes. Large tray is also convenient for dressings, juices, or water glasses. Not autoclavable. American Hospital Supply Corp.

502. Solution warmer

Explosion-proof sterile solution warmer maintains uniform temperature until solution basin is removed. Applications include heating surgical sponges, bottle IV solutions, blood and plasma; paraffin baths; hot packs for polio wards; sterile extremity soak; controlled heat for sterile bedside packs; reservoir for circulating pads; warming neuro-surgeon's instruments, and warming thoracoscopic instruments to prevent fogging. The Lin Co.

503. Safety rail



One sliding safety rail does the work of many when Clamp-On or Bolt-On supports are installed semi-permanently or permanently on several beds. Rail section is then transferred quickly and easily from one bed to another, locking into support with convenient spring latch. Noiseless installation and operation. Safety rail, 34" long, raises to 14" above upper spring fabric, and lowers to 3" above rail, well below top of mattress. Shampaine Co.

504. Doorless door

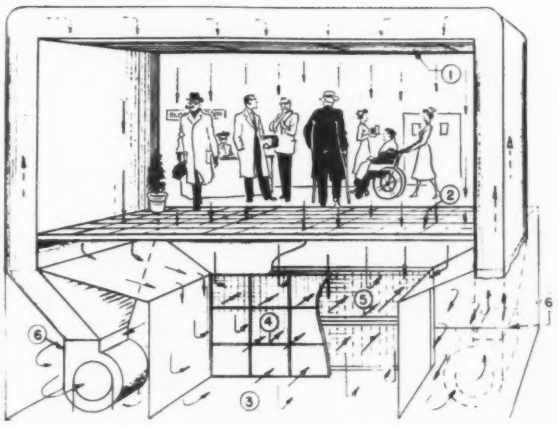


DIAGRAM OF DOORLESS DOOR
1. OUTLET GRILLE, 2. FLOOR GRATING, 3. RAMP, 4. FILTERS, 5. HEATER - COOLER, 6. FANS

Doorless door that does not revolve, pivot, lower, or lock, is made of air and cannot be seen by naked eye. Screen of air protects interior from all outside weather conditions, bars dust and dirt, and deters dogs and cats from entering. Prevents heat loss in winter, cool air loss in summer. Skirts will not ride up. Patients using wheelchairs or walking aids can enter or leave hospital without strain or difficulty. Completely open entrance eliminates traffic congestion. Sulzer Bros.

505. Petrolatum gauze packing

New ½" x 72" sterile Vaseline® petrolatum gauze packing in disposable plastic tube is selvage-edged, lightly impregnated, highly absorbent, and keeps indefinitely. To sterilize exterior, unopened tube may be immersed in suitable disinfecting solution. Non-boilable. Chesebrough-Pond's, Inc.

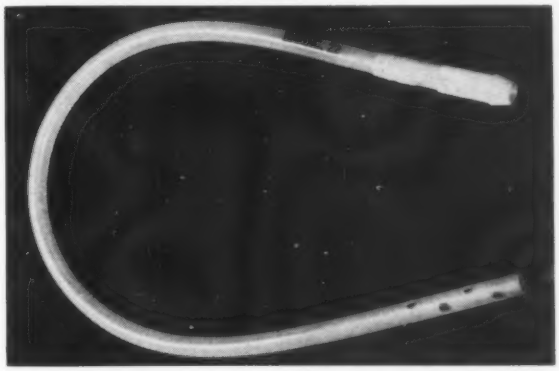
506. Sutures

Curity line of catgut sutures are available in hermetically sealed laminated packages. Aluminum foil is barrier to formaldehyde and most chemicals used as sporicidal solutions. Prevents suture from drying out. Package is opened by cutting along edge with scissors. Suture, on a reel, slips easily out of packet for use in sterile field. Requires less storage space than glass tubes. No breakage or rolling in handling. Bauer and Black, Div. of Kendall Co.

507. Tincture of Benzoin

Schuco Tincture of Benzoin USP spray in aerosol container can be applied more easily. Improves adhesive properties of tape while minimizing skin irritations and resultant infections. Especially useful under plaster casts. Available in 12-oz. containers giving more than 300 applications. Schueler & Co.

508. Vascular catheter



Vascular catheter to connect patient's arteries and veins with heart-lung machine has been developed by C. Walton Lillihei, M.D., and Herbert E. Warden, M.D., University of Minnesota Medical School. Catheter is 16½" long, made of translucent vinyl plastic which provides thin, strong walls that resist collapse. Is moderately rigid to facilitate insertion. Tip of catheter has no sharp edges, is open-ended. Eight staggered perforations in side permit flow of blood in and out with least possible turbulence. Available in sizes 10 through 28 French. C. R. Bard, Inc.

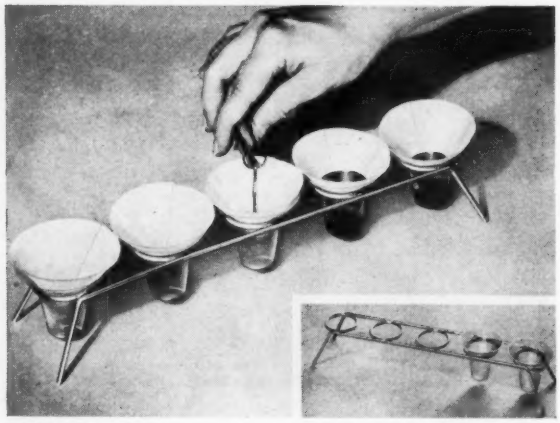
509. Micro-hematocrit centrifuge

High-speed centrifuge for micro-hematocrit work features positive safety, quiet operation, and quick stopping. Safety switch located just under top fastener permits operation of machine only when top is properly secured. Machine is pictured with 24-place capillary tube head in place. A 16-place combination head (l.) is available for eight capillary tubes and eight serum tubes. Tubes may be lifted out easily and smoothly without moving centrifuge or disturbing specimens. Operating speed: 12,000 rpm. Clay-Adams, Inc.

BUYER'S GUIDE

Continued

510. Funnel and rack



DiSPo funnels are made of thin, non-wetting plastic, strong enough to be used several times before being discarded. Unaffected by inorganic chemical solutions. Collect volume of 10 to 15 ml. Five-hole cadmium-plated racks stack easily in nest fashion for storage. Scientific Products, Div. American Hospital Supply Corp.

511. Nursing bottles

On leaving hospital, the new mother can receive the first day's formula in sterilized nursing bottles ready for instant use, packaged in convenient bottle carrier. Carton is reusable for handy refrigerator storage. Carrier, designed by Empire Box Corp., in pink and blue, has information on general care and use of nursing bottles printed on bottom. Ball Bros.

512. Physio-therapy table

No. 351 physio-therapy table features a 1⅛" plywood top, with gray Naugahyde upholstery filled with 1" foam rubber. Mounted on braced double tubular steel legs to provide maximum strength and rigidity while presenting a modern appearance. Measures 24" x 72" x 31". General Medical Equipment Corp., Div. Lumex, Inc.

513. Diagnostic plasma

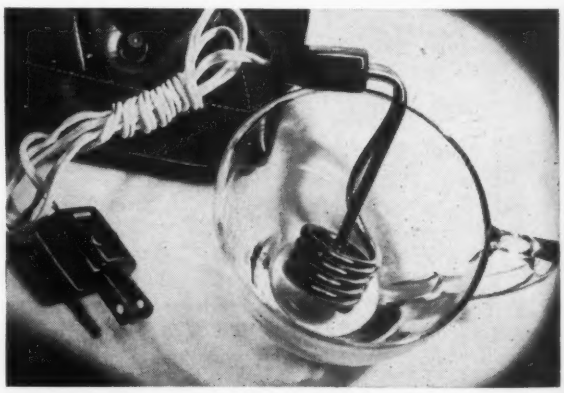
New bacteriological size vial of diagnostic plasma for coagulase test contains 2.5 ml. of standardized dried plasma, diluted to 7.5 ml. for use. This is sufficient material for 15 coagulase tests, compared with old size which permitted only three to four tests. Packaged 10 vials to a box. Warner-Chilcott Laboratories.

514. Uniforms

Styled with creative imagination but designed to serve practical needs, Tiffiny uniforms are presented in many fabrics, weaves, and finishes. Custom-detailed and easy to care for. Sizes 8-20, 5-15. R N Uniform Shop.

515. Portable immersion heater

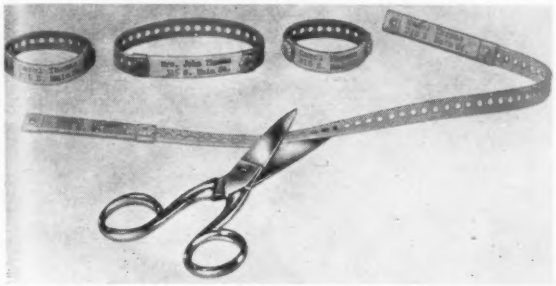
Imported from Germany, this compact heating element operating on AC or DC current hooks conveniently over lip of cup, glass, or other receptacle. Will boil water or heat any liquid in seconds. Has heat-resistant handle, 58" insulated cord, is shockproof, and safe for glass. Comes in protective plastic travel case. Can be used for sterilizing instruments, heating small quantities of liquids, hot dressings, laboratory testing, for making instant coffee, tea or soup, hot water for shaving, etc. Harvey Joel Engelsher.



516. Cotton-filled sponges

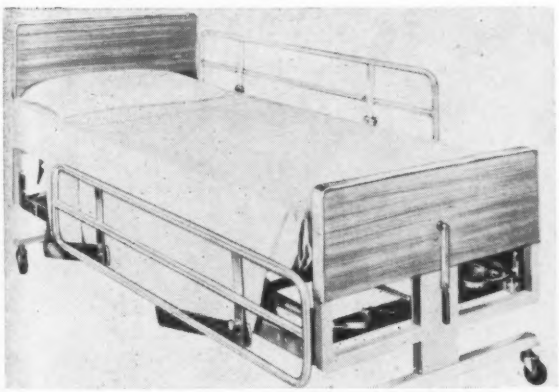
Soft, pliable cotton-filled sponges are absorbent and non-abrasive throughout, with no hard or harsh corners. All edges are carefully folded inside, with no loose threads. Monofilament x-ray opaque string makes good clear pattern on plates from any angle. Convenient for pressure dressings as well as postoperative dressings and general wound care. Carolina Absorbent Cotton Co.

517. Identification system



Double Ceremony identification system meets all recommendations made by the AHA. Strap, prior to cutting, is 10½" long, providing bracelet for mother and two bracelets for baby. Straps are adjustable to fit patient. Fastened quickly and easily to name plates with plastic rosettes which are applied with fingertip pressure. Available in pink, blue and white plastic. Non-irritating and non-toxic. The Presco Co., Inc.

518. Adjustable bed



Patient can be placed in Trendelenburg position in only 10 seconds, and in Fowler position in 25 seconds or less, in new adjustable height bed. Has minimum elevation of 18" for ease in handling litter or ambulant patients. Adjusts to 27" spring fabric height for treatment and patient care. Fast, spring-assisted lift, fold-away crank, easy-to-reach clutch, and single shaft assure positive control of head and foot heights simultaneously or independently. Supplied in six models. Royal Metal Mfg. Co.

519. Extension set

Chexet-"Y", new extension set for safe, simple IV anesthesia, has automatic check-valve system for intermittent administration of anesthetic with IV solution or blood. Eliminates troublesome stopcock problems. Is sterile, pyrogen-free, and ready for immediate use. Cutter Laboratories.

520. Lab instrument

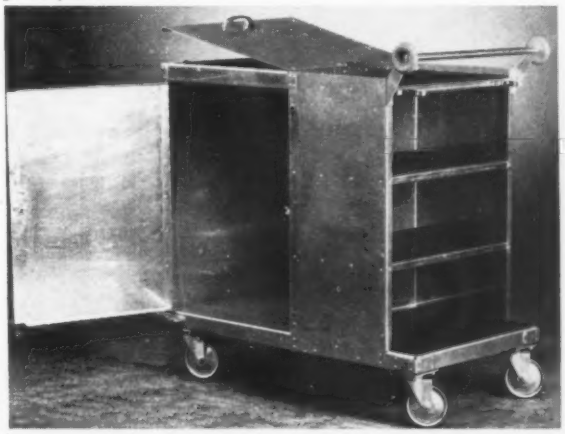
Freeze-Dry instrument with stainless steel vacuum drum supplied by Allegheny Ludlum Steel Corp. permits freezing of as many as 100 vaccine or tissue samples without contamination. Specimens can be observed while drying, and stored for extended periods of time. May be shipped in containers in which they were processed, without fear of spoilage or contamination. American Instrument Co.

521. Bandage

Cotton-covered, heat-resistant, live rubber strands in bandage withstand washing and repeated hospital usage. Soft texture of long staple cotton assures maximum patient comfort. Bandages, including clips, are individually wrapped. Medical Fabrics Co., Inc.

522. Housekeeping cart

Constructed entirely of aircraft alloy aluminum, Model S-120B housekeeping cart is equipped with four shelves, compartment for trash or soiled linen, and broom and mop holders. Mounted on two rigid and two swivel 5" ball-bearing rubber tired casters. Bucks County Enterprises, Inc.



BUYER'S GUIDE

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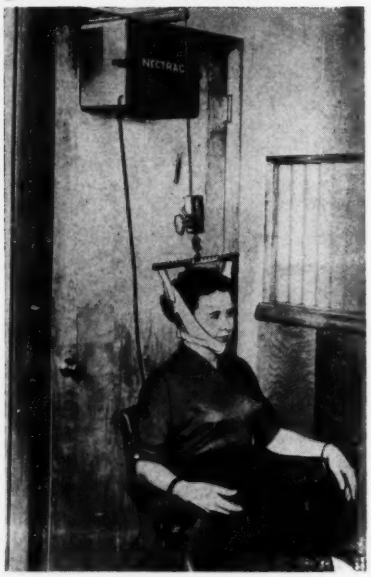
523. Traction unit



Nectrac provides motorized intermittent traction for relief of pain syndromes resulting from complications in area of cervical spine. Operating at about four cycles per minute, it permits use of much greater traction than is possible with fixed traction. Can be hung on door, wall, or bed. Patient operates Nectrac with switch held in hand. DePuy Mfg. Co.

524. Plastic sheeting

Left: Disposable waterproof plastic sheeting is available in 50" rolls 200' long, weighing only 8 lbs. Non-rattling, oil-, acid-, and waterproof. For use in lab, operating room, nursery, mortuary, and for general hospital use. Busse Plastics.

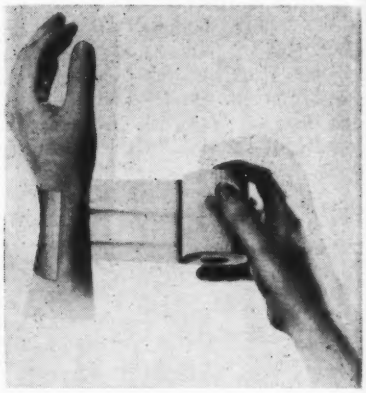
525. Enema

Travad, ready-to-use enema, stimulates peristalsis, allowing gentle, rapid and maximum cleansing with 4½ oz. of solution. More effective and less irritating than soapsuds and other enemas, says manufacturer. Non-toxic, not absorbed, has no harmful effect on fluid or electrolyte balance. May be administered in approximately 10 seconds. Travenol Laboratories, Inc.

526. O.R. caps

Scottie O.R. cap (above) has adjustable tie straps in back for snug, comfortable fit. All nurses' and surgeons' caps and masks are of pre-shrunk, finely woven muslin of specific weights. Acme Cotton Products Co., Inc.

527. Elastic bandage



Firm support to wrist is applied with new Ace-Hesive adhesive elastic bandage, which remains in place despite normal movement of affected area. Yields to swelling. Improved adhesive mass minimizes danger of skin irritation, according to manufacturer. Correct combination of stretch and tension insures uniform pressure and ease of application. Can be removed without solvents; leaves no residue on skin. Permits passage of air and excess exudates. Four widths available in single moisture-proof polyethylene bag, or in hospital package of 12 polyethylene-wrapped bandages. Becton, Dickinson & Co.

528. Incubator

Infant compartment of new incubator is made of clear lucite, giving unobstructed view of infant from any angle. Automatic oxygen limiting device can be set at 30 percent, 35 percent, or 40 percent oxygen concentration. Will not rise above recommended safe levels, preventing retrolental fibroplasia. Hand ports open at touch, close automatically. Other features include Trendelenburg adjustment, humidity tank, jet nebulizer, and forced no-draft circulation. O.E.M. Corp.

529. Swabs

Grafco Redi-Swab eliminates separate use of cotton, gauze, and alcohol by combining them. For pre-hypodermic injection, skin disinfection, blood test, lacerations, minor surgery, etc. Graham-Field.

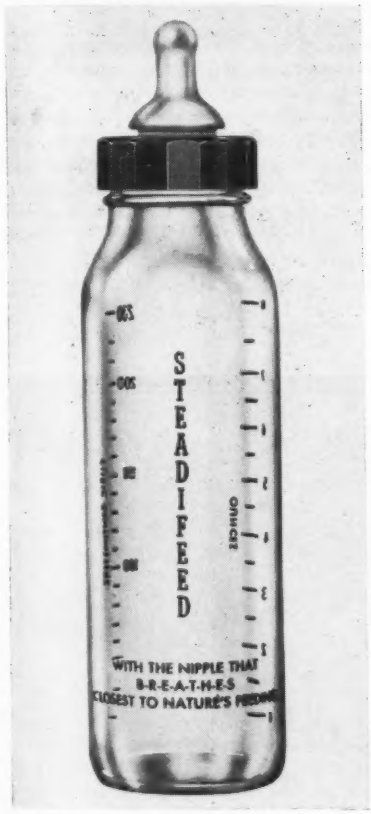
530. Fluid dispenser

Corinth Finger-Tip fluid dispenser (r.) eliminates losses, contamination, unwieldiness, and guesswork. Suitable for use with all types of liquids. Can be drop-calibrated for quantitative delivery of milliliter amounts, and will deliver one pint or more per minute when fully opened. Can be attached to any shelf or flat surface. Palo Laboratory Supplies, Inc.

531. Tape printer

New tape printer prints desired labels on inexpensive flat back pressure-sensitive tape, using autoclave ink which prints red but changes color to green when autoclaved. E. Weck & Co.

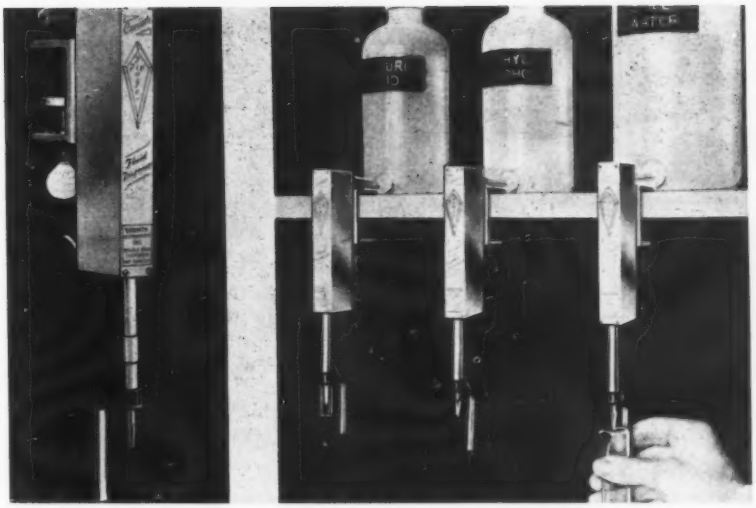
532. Nursing bottle



New Steadifeed Color-Round nursing bottle is round on inside for positive and easy cleaning. Outside surface is also round except for one flat panel to prevent rolling. Bottle lip is smoothly rounded both inside and outside to prevent chipping. Easily readable fire-red ounce and metric scales are fused on for life of bottle. Searer Rubber Co.

533. Air conditioner

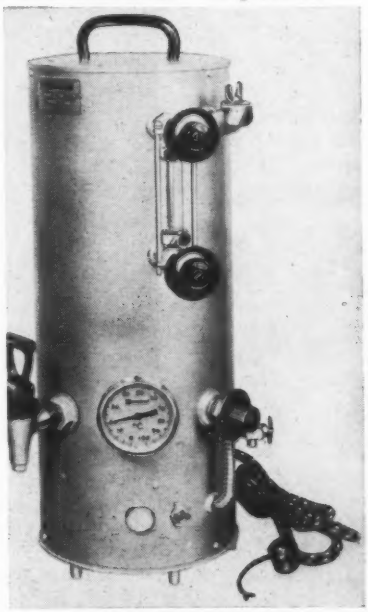
Ozium, glycol-ized, invisible vapor-spray is a safe and unobtrusive medium for quickly dispelling odors, reducing airborne bacteria, and removing smoke. Woodlets, Inc.



534. Surgical gut

Adequate support during healing process is provided with surgical gut which is promptly and completely absorbed thereafter. Does not swell in tissues and is fully compatible with them. Now 15 to 25 percent stronger, its flexibility approaches that of silk. Round-coil wind eliminates kinks and bends. Surel, Inc.

535. Paraffin dispenser



Automatically heated paraffin melter and dispenser eliminates paraffin handling. Portable unit keeps it at constantly controlled temperature on tap for instant use. Is drawn off into the boats as needed, through simple, non-clogging, self-closing faucet. Barnstead Still & Sterilizer Co.

536. Solution bottle

Intravenous solution bottle designed for functional hospital use incorporates non-slip thumb and finger grips, and a unique label with numerals printed in a "working" position cross-calibrated with bottle numerals. Bottles in pediatrics series have 10 cc. graduations. Baxter Laboratories, Inc.

537. Pediatrician scale

Flick of finger slides balance weight indicators on Borg-Seca baby scale to desired reading. Tilted white-on-black weight-reading bar provides positive legibility and accurate fast reading. Capacity 32 lbs., graduated by quarter ounces. Borg-Erickson Corp.

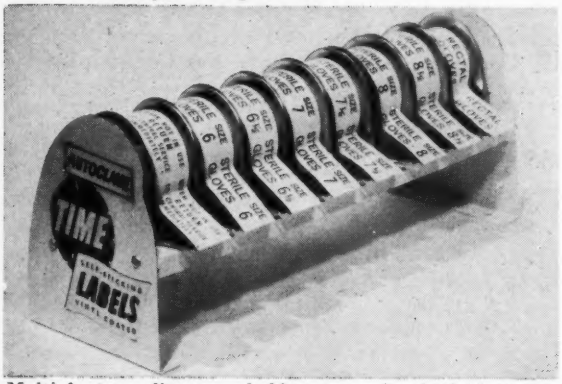
BUYER'S GUIDE

Continued

538. Dandruff remedy

New therapeutic agent, Theradan, has proved remarkably effective in providing long-lasting freedom from dandruff and various seborrheic conditions of the scalp. Applied to scalp before shampooing, one or two applications usually will keep scalp in mild cases clear from four to 12 weeks. Long-lasting relief from the most severe dandruff cases has been provided after three applications. No hair loss was observed during the clinical trials. Bristol-Myers.

539. Multiple dispenser



Multiple tape dispenser holds up to nine individual dispensers. Can be secured to walls, tables, etc. Wide selection of nomenclatures available for all possible laboratory and pharmaceutical requirements. Special labels are available upon request. Professional Tape Co., Inc.

540. Battery eliminator

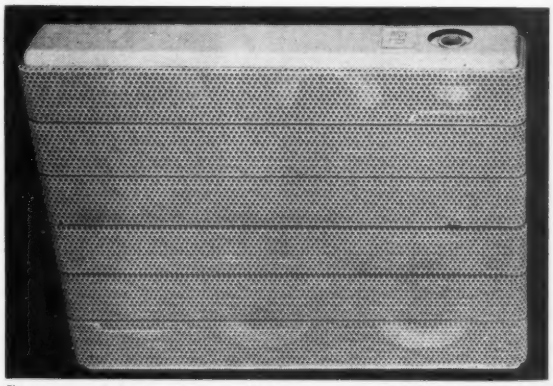
Battery eliminator for all diagnostic light instruments has been announced. Voltage may be varied from 0 to 6 volts, with maximum of 2 amperes capacity. Voltmeter is pro-

vided for setting and monitoring voltage levels. Lamps light up to indicate short or open circuit. Specially designed transformer with insulation rating exceeding 2,000 volts is hermetically sealed. Never needs recharging or refilling. Resettable current breaker insures maximum safety. Anthony Associates.

541. Shelf trucks

Port-O-Shelves are mobile sections of adjustable steel shelving for transportation of central supply and pharmacy supplies to wards, operating rooms, and other departments. Basic truck may be divided into several compartments, with dimensions conforming to storage needs. For horizontal division, shelf holders are spaced 2½" apart; for vertical division, dividers may be affixed onto shelves. Sliding drawers with pull handles and locks may be attached for storage of security items. Addition of top guard permits carrying of bulky packs on roof of truck. The MacBick Co.

542. Radiator



Steam and hot-water radiators are specifically designed for use in mental institutions. Shaw Model I features a box-type housing of heavy, closely-perforated steel completely covering interior construction, thus preventing tampering and insertion of foreign matter. Entire assembly is permanently bonded together to form one-piece unit indestructible in institution service. Rounded corners overall; exposed surfaces kept at temperatures safe to the touch. Shaw-Perkins Mfg. Co.

543. Admission forms

Form No. A-118, *Summary Sheet*, and Form No. A-119, *Record of Admission*, both contain identical arrangement of sociological data, and can therefore be typed simultaneously with carbon paper. Forms also provide for insurance information. Physicians' Record Co.

FILMS AND NEW LITERATURE

560. Surgical instruments

Every major field of surgery is represented in 600-page surgical instruments catalog. The 23 categories include thoracic surgery (48 pages), eye instruments (84 pages), neurosurgical instruments (37 pages), and general surgery (100 pages). The Lawton Co.

561. Lab safety manual

Newest edition, "Manual of Laboratory Safety," covers accident prevention, first aid, fire prevention, safety equipment, and concludes with a safety bibliography. Pocket-size, fully illustrated. Fisher Scientific Co.

562. Skin booklet

"The Skin: Our First Line of Defense" is designed for both the student and graduate nurse. Discussed in the booklet are anatomy and function, skin conditioning, toxicity of alcohol, and treatment of several types of patients. S. M. Edison Chemical Co.

563. Enema booklet

"A New and Simple Method" describes Fleet Enema disposable unit, then illustrates various methods of administering an enema. C. B. Fleet Co., Inc.

564. Paper goods catalog

Recommended paper sterilizing technics are featured in paper goods catalog. Representative hospitals describe complete processing methods of sterilizing in paper. Section II details paper service disposables. American Hospital Supply Corp.

565. Floor maintenance folder

New folder gives detailed information on how to maintain electrical conductive floors. Shows and tells how to clean, protect, and test this type of flooring. Huntington Laboratories, Inc.

566. Reagents catalog

Price and specifications catalog lists more than 150 reagents for medical research and biochemical testing. Dajac Laboratories, Chemical Division, Borden Co.

567. Microscopic booklet

Series R research microscopes are described and illustrated in 20-page booklet. Information on accessories and price list are included. Bausch & Lomb Optical Co.

568. Aortic arch film

"Development of the Aortic Arch," 13-minute color sound film, gives a clear understanding of the normal development pattern of the aortic arch, through use of animated diagrams based on known embryological data. E. R. Squibb & Sons.

569. Cardiac diseases

Three new films concerning cardiac diseases are now available. Differential diagnosis of certain abnormal heart-beat rhythms and the mechanism of normal heart action are discussed in "Disorders of the Heart Beat." A simplified explanation of the significance of the hepato-jugular reflux and treatment of congestive heart failure is given in "The Hepato-Jugular Reflux." "The Heart Cripple" presents case histories of several children suffering from rheumatic fever. Wyeth Laboratories.

570. Mental Health film

In "We, the Mentally Ill," patients at St. Elizabeth's Hospital, Washington, D.C., present drama about mental illness, based on life of Dorothea Lynde Dix. Existing conditions in mental institutions are summarized, as are new medicines revolutionizing treatment. American Medical Association.

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prescription pad

Calcium Supplement

Calcets are chocolate-flavored calcium tablets. Each "candisphere" contains 500 mg. of calcium phosphate, 250 USP units of vitamin D_2, 500 USP units of vitamin A, and trace elements which occur in milk.

Three "candispheres" daily provide as much calcium and trace elements as one pint of milk, says the manufacturer, Walker Laboratories, Inc.

Oral Diabetic Drug

Orinase (tolbutamide), an oral diabetic drug, is now available for prescription use, the Upjohn Co. recently announced.

The drug has been under clinical study in this country since November, 1955. It has proved effective, according to the manufacturer, in controlling blood-sugar levels in mild to moderate cases of diabetes, particularly in patients 40 years of age and older who require 40 units of insulin a day or less.

Orinase should not be used, the manufacturer warns, in juvenile diabetics, in those who are prone to acidosis, or those who have the unstable form of the disease or suffer from other complications.

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in helping to prevent
and clear up
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SAMPLES on request
DESITIN CHEMICAL COMPANY
812 Branch Ave., Providence 4, R. I.

1. Grayzel, H. G., and Schapiro, S.: Western Journal of Surgery, Obstetrics and Gynecology, Oct. 1956.

New Name for Pfizer Tetracycline Products

The introduction of Signemycin V, a formulation of phosphate buffered tetracycline and oleandomycin, marks a name change for all Sigmamycin products, Pfizer Laboratories has announced.

Pending completion of the change, prescriptions for Sigmamycin can be filled as such or with Signemycin-labeled material, Pfizer said.

The change was made to eliminate any possibility of confusion with a product which has a similar name but entirely different indications.

Each Signemycin V capsule contains 83 mg. of oleandomycin phosphate plus phosphate buffered tetracycline equivalent to 167 mg. of the hydrochloride.

Product for Nausea

Bendectin tablets, for the treatment and prevention of nausea and vomiting in pregnancy, are available from the William S. Merrell Co.

Each tablet contains 10 mg. Bentyl hydrochloride, 10 mg. Decapryn succinate, and 10 mg. pyridoxine hydrochloride, and is specially coated to assure release of medication four to six hours after ingestion. Tablets are supplied in bottles of 100.

For Atherosclerosis

Saff, a new compound containing a high percentage of essential unsaturated fatty acid, has been developed by Abbott Laboratories as an aid in the management of atherosclerosis.

Nutritional scientists, explained Abbott's director of nutritional research, have demonstrated that while most fats raise the blood cholesterol level, highly unsaturated oils which are good sources of essential fatty acids cause a decrease in blood cholesterol.

Saff contains oil pressed from the seeds of the safflower, which contains a higher percentage of essential unsaturated fatty acid and a lower percentage of saturated fatty acids than any other edible vegetable oil.

Saff, supplied in pint bottles, can be mixed with most liquids and with many foods, or can be taken from the spoon.

(Continued from page 61)

professional services, VA Hospital, Omaha, Neb., has been appointed manager and director, professional services, VA Hospital, Clarksburg, W. Va., succeeding **Louis M. Hohman, M.D.**, who has retired.

Marvin A. Chapman—has been appointed manager, VA Center, Wadsworth, Kan. He was formerly director of homes, department of medicine and surgery, VA central office, Washington, D.C. He will succeed **William N. Gregg**, who has retired.

Richard G. Jones—has become assistant manager, VA Hospital, Palo Alto, Calif. He was formerly assistant manager, VA Hospital, American Lake, Wash.

Abraham M. Kleinman, M.D.—director of professional services, VA Hospital, Brooklyn, N.Y., has been appointed manager, Bronx VA Hospital, New York City.

John D. McCullough, M.D.—has been appointed manager, VA Hospital, Northampton, Mass. He was formerly director, professional services, VA Hospital, Tuscaloosa, Ala. He succeeds **Richard T. O'Neil, M.D.**, who has retired.

Thomas J. Ready, M.D.—director, professional services, VA Hospital, Providence, R.I., has been appointed manager, VA Hospital, Washington, D.C., succeeding **Edwin J. Rose, M.D.**, who has retired.

Ernest M. Tapp, M.D.—has been appointed manager, VA Hospital, Dearborn, Mich. He was formerly manager, VA Hospital, Poplar Bluff, Mo. Dr. Tapp succeeds **Thomas P. Crane, M.D.**, who was transferred to the VA Hospital, San Francisco, Calif.

Louis F. V. P. Vanderhorst, M.D.—has become chief of surgery, Winter Veterans Hospital, Topeka, Kans., succeeding **Joseph P. Bell, M.D.**, who will enter private practice in Las Vegas, Nev.

New Officers

The Hospital Association of Pennsylvania has elected **James C. Kirk**, administrator, Pottsville Hospital, president. Other new officers are: **Walter J. Rome**, executive director, Children's Hospital, Pittsburgh, first vice-president; **Mabel Barron**, administrator, Ellwood City Hospital and Mary Evans Maternity Hospital, second vice-president, and **Joseph W. Bishop**, administrator, Hahnemann Hospital, Scranton, who began his fifth year as treasurer.

New officers, Pacific Northwest Obstetrical and Gynecological Association, are: **Paul Rollins, M.D.**, Seattle, president; **Alec M. Agnew, M.D.**, Vancouver, B. C., president-elect; **Earl L. Hall, M.D.**, Great Falls, Mont., vice-president, and **Clifford L. Fearl, M.D.**, Portland, Ore., secretary-treasurer.

Deaths

Lawrence Curtis, M.D.—67, founder, American Board of Plastic Surgery, died in June at Swarthmore, Pa. He was chief, plastic surgery, Graduate Hospital, University of Pennsylvania, and chief of surgery, Presbyterian Hospital, Philadelphia.

Alan Gregg, M.D.—66, retired vice-president, Rockefeller Foundation, and for 20 years chief, division of medical sciences, died recently.

Abraham A. Jaller—68, executive director, New York Polyclinic Medical School and Hospital, New York City, died May 25.

Roy W. Scott, M.D.—69, heart disease specialist, died May 26. He had been director, Cleveland City Hospital department of medicine, and professor of medicine, Western Reserve University School of Medicine.

Katherine Tucker—72, leader in public health nursing and nursing education, died in Philadelphia June 6. She was general director, Visiting Nurse Society of Philadelphia; executive director, National Organization for Public Health Nursing, and director, department of nursing education, School of Education, University of Pennsylvania.

Administration Grads Receive Assignments

The degree of Master of Science in Hospital Administration was conferred upon 55 graduates of Northwestern University, Chicago. Those awarded degrees, and their assignments, are: **James D. Anderson**, former administrative resident, Memorial Hospital of DuPage Co., Elmhurst, Ill., remaining as assistant administrator; **William H. Bennett, Jr.**, superintendent since 1952, Obion County General Hospital, Union City, Tenn.; **Gordon S. Boughton**, formerly administrative resident, Community Hospital, Indianapolis, Ind., now assistant administrator.

George M. Brewer, assistant administrator, Presbyterian Hospital Center, Albuquerque, N.M. (residency waived); **LaVerne C. Burner**, administrator, Woodward Hospital, Sandwich, Ill.; **Peter J. Buttaro**, administrator, LaCroix Memorial Hospital, White Pine, Mich.

Thomas L. Byram, administrative resident, Baylor University Hospital, Dallas, Tex., assistant administrator, Hamot Hospital, Erie, Pa.; **Evan L. Casey**, chief accountant, University Hospital, Saskatoon, Sask.; **John F. Clark**, comptroller, Grant Hospital, Chicago; **James B. Clemens**, assistant director, Newington (Conn.) Home and Hospital for Crippled Children.

Maurice P. Coffee, Jr., administrative assistant, Lankenau Hospital, Philadelphia, where he was formerly administrative resident; **James W. Conte**, assistant manager, Jacksonville (Ill.) State Hospital; **Charles M. Cooper, Jr.**, formerly administrative resident, University of Texas Medical Center Hospitals, Galveston, remaining as administrative assistant; **Neil S. Cooper**, Eastern State Hospital, Knoxville, Tenn., remaining as business manager.

Adam Coutts, assistant administrator, St. Luke's Hospital, Spokane; **Lawrence C. Davis, Jr.**, administrative assistant, Hackensack (N.J.) Hospital; **John P. Devins**, administrative resident, Youngstown (O.) Hospital, assistant administrator, St. Alexis Hospital, Bismarck, N.D.; **Paul R. Donnelly**, formerly administrative resident, Grant Hospital, Chicago, remaining as assistant administrator; **Marcus E. Drewa**, administrative assistant, Southern Baptist Hospital, New Orleans.

Jerry L. Durr, formerly administrative resident, University Hospital, Jackson, Miss., remaining as business officer; **Douglas R. Eitel**, assistant administrator, Variety Children's Hospital, Coral Gables, Fla.; **Mary Lou Finger**, assistant administrator, Women's College Hospital, Toronto, Ont.

Soledad A. Florendo, M.D., chief, Health, Education and Information Service Division, Philippine T.B. Society, and assistant to director, Quezon Institute, Manila; **Edgar P. Furie**, formerly administrative resident, Jewish Hospital, Cincinnati, remaining as administrative director.

Joe S. Greathouse, Jr., assistant administrator, Vanderbilt University Hospital, Nashville, Tenn.; **Donald E. Hansen**, administrative resident, Bismarck (N.D.) Hospital, remaining as acting administrator; **Elmer Lee Harvey**, administrative resident, Methodist Hospital, Indianapolis, remaining as administrative assistant;

(Continued on next page)

Joseph I. Hutchinson, administrative resident, Baptist Memorial Hospital, Jacksonville, Fla., remaining as administrative assistant; **Donald J. Jacobs**, administrative assistant, Weiss Memorial Hospital, Chicago.

Theodore H. Johnson, assistant administrator, Illinois Masonic Hospital, Chicago; **Charles W. Jones**, administrative assistant, Presbyterian-St. Luke's Hospital, Chicago; **Harold V. King**, assistant administrator, Salem (Ore.) Memorial Hospital; **Warren Jay Lenz**, administrator, Central State Hospital, Lakeside, Ky.; **Willard J. Lenthard**, Sonoma State Hospital, Eldridge, Calif.

Joseph D. McGee, assistant administrator, SS. Mary & Elizabeth Hospital, Louisville, Ky.; **Arthur S. Malasto**, administrator, Porter Memorial Hospital, Valparaiso, Ind.; **Olof T. Moline**, assistant administrator, Hinsdale (Ill.) Sanitarium and Hospital; **Rodrigo A. Moreno**, hospitals division, Dept. of Public Health, Republic of Panama.

Marie N. Oling, administrator, McCrary Memorial Hospital, Kendallville, Ind.; **Gladys E. Post**, administrative resident, Indiana University Medical Center Hospital, Indianapolis, remaining as administrative assistant; **Garnett L. Radin**, administrative resident, Jackson Memorial Hospital, Miami, Fla., remaining as administrative assistant; **Marvin N. Rappaport**, Mount Sinai Hospital, Los Angeles, formerly administrative resident, now administrative assistant; **Lester H. Rudy, M.D.**, superintendent, State Research Hospital, Galesburg, Ill.

Kenneth J. Shouldice, administrative assistant, Milwaukee (Wis.) County Hospital; **William R. Sittler**, assistant administrator, Evangelical Hospital, Chicago; **George Skomsky**, administrative resident, Auburn (N. Y.) Memorial Hospital.

Victor M. Sledge, administrator, Muhlenberg Hospital, Greenville, Ky.; **David M. Smith**, administrative resident, Shannon West Texas Memorial Hospital, San Angelo, Tex.; **Richard C. Stainback**, administrative resident, christ Hospital, Cincinnati, O.

John A. Taft, Jr., administrative resident, Chicago Wesley Memorial Hospital, remaining as night superintendent; **Billy R. Talbert**, administrative resident, Presbyterian-St. Luke's Hospital, Chicago, remaining as administrative assistant; **Richard O. Thal**, administrative resident, Community Hospital, Tupelo, Miss.

William H. Van Slyke, administrative resident, Robert Packer Hospital, Sayre, Pa., remaining as administrative assistant, and **Roland W. Wilpitz**, administrator, Marcus J. Lawrence Memorial Hospital, Cottonwood, Ariz.

Students Appointed To Residencies

Appointments to administrative residencies for students who have completed academic work at Northwestern University, Chicago, are as follows: James J. Bertone to Charles O. Bruce, M.D., director, Gorgas Hospital, Balboa Heights, Canal Zone; John Beyer to Ray Woodham, administrator, Presbyterian Hospital Center, Albuquerque, N.M.; Delos J. Bristor to Robert K. Dean, administrator, Longview State Hospital, Cincinnati, O.; James E. Champer to Mortimer Zimmerman, executive director, Louis A. Weiss Memorial Hospital, Chicago; Merle H. Charney to David H. Ross, M.D., executive director, Jewish Hospital, Cincinnati, O.

In Hae Chung to Theodore A. Austin, superintendent, Worcester (Mass.) City Hospital; Russell T. Clayton to Frederic R. Veeder, administrator, Children's Hospital, Louisville, Ky.; Ivan H. Corner, Jr., to Edgar O. Mansfield, superintendent, White Cross Hospital, Columbus, O.; Robert A. Cunningham to Lawrence Payne, administrator, Baptist Memorial Hospital, Jacksonville, Fla.; William A. Gaunt to Roy R. Anderson, superintendent, Presbyterian Hospital, Denver, Colo.; James J. Herman to Joseph P. Greer, director, Presbyterian-St. Luke's Hospital, Chicago.

Others are: Frederick L. Hinchee to Bryce L. Twitty, administrator, Hillcrest Medical Center, Tulsa, Okla.; Richard E. Holladay to Pat N. Groner, administrator, Baptist Hospital, Pensacola, Fla.; Louis J. Jansa to Alfred E. Maffly, administrator, Herrick Memorial Hospital, Berkeley, Calif.; Homer L. Jenkins to Norman Thompson, administrator, French Hospital, San Francisco, Calif.; Francis E. Lambert to E. N. Hinko, M.D., superintendent, Cleveland (O.) Receiving Hospital; Luther Landon II to Leon C. Pullen, Jr., administrator, Decatur and Macon County Hospital, Decatur, Ill.; Glen H. Lauth to Paul W. Kempe, administrator, Silver Cross Hospital, Joliet, Ill.

Clifford M. Lebo to Webster S. Kohlhaas, superintendent, Harrisburg (Pa.) Hospital; Viva Marie Leflar to Kermit H. Gates, M.D., superintendent, Jackson Memorial Hospital, Miami, Fla.; Donald C. Leine to Vernon D. Seifert, administrator, Fairview Park Hospital, Cleveland, O.; William D. Locke to Raymond F. Hosford, director, Lankenau Hospital, Philadelphia; Kenneth L. Lowe to Robert L. Denholm, director, Colorado General Hospital, Denver; Jim Mac Luker to Phil Carter, administrator, Methodist Hospital, Lubbock, Tex.; Clay M. McCluskey to Reid T. Holmes, administrator, North Carolina Baptist Hospital, Winston-Salem, N.C.; John K. Miles, Jr. to Richard O. Cannon, M.D., director, Vanderbilt University Hospital, Nashville, Tenn.; Walter H. Miles to Tol Terrell, administrator, Shannon West Texas Memorial Hospital, San Angelo, Tex.

Also: Don A. Myers to William B. Barnhart, administrator, Maury County Hospital, Columbia, Tenn.; John V. O'Meara to Herbert R. Rodde, administrator, Highland Park (Ill.) Hospital; Hugh R. Owens to Raymond F. Farwell, administrator, Swedish Hospital, Seattle, Wash.; Rodney L. Plano to J. A. Katzive, M.D., executive director, Maimonides Hospital, Brooklyn, N.Y.; Lionel G. Price to Jack A. L. Hahn, superintendent, Methodist Hospital, Indianapolis, Ind.; Earl Raps to Nathan W. Helman, director, Mount Sinai Hospital, Chicago; Thomas B. Reed to Frederic R. Veeder, administrator, Children's Hospital, Louisville, Ky.; Robert D. Reeves to David B. Wilson, M.D., director, University Hospital, Jackson, Miss.

Poerner E. Riehl to John G. Dudley, administrator, Memorial Hospital, Houston, Tex.; Charles R. Sanders to Albert H. Scheidt, administrator, Parkland Hospital, Dallas, Tex.; William A. Stewart to Harold L. Peterson, administrator, Baroness Erlanger Hospital, Chattanooga, Tenn.; Thomas J. Streit to Frank Unzicker, administrator, Memorial Hospital of DuPage County, Elmhurst, Ill.; John O. Tucker to Matthew F. McNulty, Jr., administrator, University Hospital and Hillman Clinics, Birmingham, Ala.; Kenneth G. Van Bree to Karl H. York, administrator, St. Luke's Hospital, Racine, Wis.

Leonard E. Watson to Phil Carter, administrator, Methodist Hospital, Lubbock, Tex.; Windsor D. Wilder to Percy F. Riggs, administrator, Presbyterian Hospital-Olmsted Memorial, Los Angeles; George H. Yeckel to Bruce W. Dickson, Jr., administrator, Bethany Hospital, Kansas City, Kans.; and John L. Yoder to David V. Carter, administrator, Fitkin Memorial Hospital, Neptune, N. J.

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516. Cotton-filled sponges
517. Identification system
518. Adjustable bed
519. Extension set
520. Lab instrument
521. Bandage
522. Housekeeping cart
523. Traction unit
524. Plastic sheeting
525. Enema
526. O.R. caps
527. Elastic bandage
528. Incubator
529. Swabs
530. Fluid dispenser
531. Tape printer
532. Nursing bottle
533. Air conditioner
534. Surgical gut
535. Paraffin dispenser
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538. Dandruff remedy
539. Multiple dispenser
540. Battery eliminator
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542. Radiator
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Retrolental Fibroplasia --

a Disease of Our Time

By Arthur C. Kissling, M.D.*

OB DEPARTMENT

• In the short span of 16 years, a disease hitherto unknown to medicine has ascended to high importance, challenged the best minds of the medical world, and been overcome by research to a point that in August, 1955, "An Epitaph for Retrolental Fibroplasia" appeared in the ophthalmic literature. Retrolental fibroplasia — still the most common cause of blindness in children — has been controlled, but not eliminated.

Retrolental fibroplasia is a disease essentially found in premature infants—involving both eyes, and showing changes in the peripheral retina, leading in many cases to partial or total blindness. It is the most common cause of pre-school blindness in the United States today. In 1955, the National Society for the Prevention of Blindness estimated that RLF was responsible for 47 percent of all blindness in children under seven years of age. An estimated 8,000 youngsters are living today with partial or total visual impairment resulting from this condition.

In February, 1941, Theodore L. Terry, M.D.,[1] professor of ophthalmology at Harvard Medical School, observed for the first time the strange vascularized membrane lying behind the lens in the eyes of a six-month-old infant born two months prematurely. Preliminary examination had indicated that this was a case of congenital cataracts. It was only during the careful examination prior to surgery that the startling nature of this phenomenon was recognized. A truly new disease entity had been discovered.

From 1941 until 1953, no less than 50 possible etiologic factors were investigated. As early as 1949, Kinsey and Zacharias[2] noted that oxygen was one of many variables encountered in the care of infants in premature nurseries. However, it was not until 1952 that the case against oxygen began to unfold.

With the introduction of more efficient types of incubators for oxygen administration in England and Australia, the incidence of RLF began to rise. The reports of Crosse and Evans[3] in England and Campbell[4] in Australia suggested a cause-and-effect relationship. Patz's report (also in 1952) on controlled oxygen studies begun in 1948 implicated oxygen as an etiologic factor. About a year and a half later, his excellent experimental work[5] with rats, mice, and kittens showed conclusively that oxygen would cause changes identical to RLF in the retinas of these experimental animals. This work was also confirmed by Ashton[7] in England.

On July 1, 1953, the most thorough and completely controlled studies on RLF were begun under the direction of V. E. Kinsey, M.D. Eighteen hospitals, all east of the Mississippi, were selected to take part in this research project. A control center was set up in Detroit to coordinate the efforts of the participating hospitals so that data from all of them could be tabulated weekly.

A preliminary report, published in January, 1955,[8] conclusively showed that infants receiving larger amounts of oxygen and for longer periods of time had an incidence of 72 percent RLF (developed RLF in one of its five active stages), whereas those on curtailed oxygen showed an incidence of only 30 percent.

Furthermore, the fact that there was no significant difference in the mortality rate between the two groups refuted the concept that larger amounts of oxygen were necessary for survival of premature infants.

The final report on this study was published by Kinsey[9] in October, 1956. The investigation had covered a period of one year, ending in June, 1954. A total of 786 premature infants, weighing 1,500 grams (3.5 pounds) or less at birth, were included in the study group. The most important facts brought to light were:

(1) The mortality rates were not significantly different between the routine oxygen group and the curtailed oxygen group.

(2) The incidence of active-stage RLF in the routine oxygen group was twice that of the controlled group.

(3) The incidence of cicatricial RLF in the routine oxygen group was three and one-half times that of the curtailed oxygen group.

(4) The incidence of RLF increased rapidly with the increased duration of exposure to oxygen, but was not significantly dependent on the concentration of oxygen administered.

PATHOLOGY AND CLINICAL COURSE

At a symposium on RLF, given before the American Academy of Ophthalmology and Otolaryngology in 1954,[10] it was stated that analysis of data showed the common denominator in all animal experiments to be a susceptibility to oxygen where the retina was incompletely vascularized, and a resistance to oxygen damage where vascularization was complete.

Friedenwald, Owens, and Owens[11] have described the pathology of RLF in which microscopically the earliest changes are found in the nerve-fiber layer of the peripheral retina. Proliferation of the capillary endothelium, varicose dilatation, and budding of the small retinal vessels occurs. Newly formed capillary strands extend through the internal limiting membrane, and into the vitreous. As the lesion advances, the retina becomes detached and forms small folds which are bridged by a neovascular network. Eventually the entire retina becomes

(Continued on next page)

*Dr. Kissling is a Milwaukee (Wis.) ophthalmologist.

separated and extends like a stalk from the optic nerve to the posterior lens surface.

Clinically the visible changes consist of dilatation and tortuosity of the retinal vessels, neovascularization and retinal detachment, which gradually increases until the entire retina, separated from its base, comes to lie in the space directly behind the lens. Edema and hemorrhages are also part of the picture. It is noteworthy that this process may become arrested at any stage. Early changes are reversible, so that a normal eye may result in some cases. Since both eyes frequently do not progress at the same rate, one eye will often show permanent changes far more advanced than the other.

In 1953, a committee consisting of Drs. Algernon B. Reese, Merrill J. King, and William J. Owens[12] submitted a classification of RLF which has gained wide acceptance. It divides the disease into an *active phase* (in which tissue changes are in progress) and a *cicatricial phase* (in which permanent residual changes are present).

Each of these phases is subdivided into five stages, depending on the extent that the pathological process has progressed. Eyes that have advanced to the cicatricial stage V show marked secondary changes such as dentate processes, shallow anterior chambers, corneal opacifications, posterior synechia, iris atrophy, pupillary membrane, cataract, secondary glaucoma, and buphthalmos.

The diagnosis is based on (1) a history of prematurity and a birth weight of 1,800 grams (four pounds) or less, (2) exposure to oxygen concentrations of greater than 50 percent (usually in modern, tightly closed incubators) for periods of several days or more, and (3) clinical findings as previously described based on weekly or bi-weekly examination of the retina with an ophthalmoscope through a dilated pupil. These examinations should begin during the first week of life and continue through the third month. In advanced stages, more obvious factors, such as a white pupil, the child's inability to recognize approaching objects, and rubbing of the eyes, offer clues to parents.

Numerous therapeutic approaches have been tried during the investigation of RLF. Reese[13] and LaMotte, Tyner, and Scheie[14] studied the effect of ACTH, cortisone, and vitamin E. Results showed that none had any significant effect on the course of the disease. Kinsey and Chisholm[15] also reported no effect from the administration of vitamin E to premature infants.

The treatment of RLF is essentially a matter of prevention and revolves around the one known etiologic factor—oxygen. Almost all recent investigation points to the judicious use of oxygen as the key to reducing RLF to a minimum. Premature infants should be given minimal amounts of oxygen, preferably 40 percent or less, for as short a time as is necessary and only on the basis of frank clinical need as determined by the pediatrician. Oxygen concentrations should be measured with an oxygen analyzer and recorded every four to six hours.

The most important job at hand is the widespread dissemination of knowledge concerning RLF, so that not one more infant has to suffer unnecessarily the consequences of this tragic disease.

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Recommendations for Oxygen Use in Prematures

The following recommendations have been made by the Committee on Fetus and Newborn of the American Academy of Pediatrics for the use of oxygen in premature and small infants:

(1) Oxygen should be prescribed only on medical order the same as any drug or treatment (except in emergency).

(2) Oxygen should not be administered routinely but only upon specific medical indication.

(3) Oxygen concentration should be kept at the lowest possible level that will relieve the symptoms for which it is given, if possible not over 40 percent.

(4) Oxygen therapy should be discontinued as soon as the indication for it has passed.

(5) Ordinarily, the indications for supplemental oxygen are general cyanosis (not acrocyanosis) and dyspnea. The urgency of treating these symptoms must rest with the clinical judgment of the attending physician.

(6) Oxygen concentration must be determined by means of an oxygen analyzer as often as necessary to keep it properly stabilized but at least every four hours.

(7) A source which does not contain or deliver more than 40 percent oxygen will insure against exceeding that concentration but may not be adequate in those occasional instances where higher concentration is desired. If such a restricted source of oxygen is employed, additional oxygen should be available for those special instances where it is indicated.

(8) There are no apparent contraindications to the use of supplemental oxygen in infants weighing more than five pounds.

These recommendations appear in the 1957 edition of "Standards and Recommendations for the Hospital Care of Newborn Infants (Full-Term and Premature)," available from the American Academy of Pediatrics.

How to Control Oxygen for Premature Infants

This article and the accompanying charts on page 77 are reproduced with permission from a folder prepared for the National Society for the Prevention of Blindness by Jonathan T. Lanman, M.D., assistant professor, department of pediatrics, New York University Medical School, New York City, and Ada McLaughlin, R.N., supervisor, Bellevue Hospital Premature Care Center, New York.

1 Limit both Duration and Concentration of Oxygen Therapy

How to Limit Duration

Give no "routine" oxygen; give oxygen only for clinical indication (such as cyanosis). Irregular respiratory rhythm commonly seen in premature infants is not an indication for oxygen.

Discontinue oxygen as soon as possible. Less than an hour's therapy is often sufficient. Prolonged therapy even at presumably safe concentrations (below 40 percent) has been associated with cicatricial retrolental fibroplasia. Discontinue oxygen at least once every eight hours unless the infant is cyanotic while in oxygen.

Use compressed air to operate vaporizers.

How to Limit Concentration

Always keep oxygen concentration **below** 40 percent by analysis. Always use an oxygen analyzer.

Method 1: Use tanks containing 40 percent O_2 and 60 percent N_2.

This simple, dependable method requires a special gas mixture but no special apparatus. The flow rate required to give about a 35 percent concentration varies from 5 to 10 L/min. with the type of incubator used. High initial flow rates will bring concentration up to the desired level quickly. Concentrations above 40 percent are not attainable with this method; we believe this is a highly desirable feature in practice.

The special mixture is two to three times more expensive than 100 percent oxygen. Mistakes in manufacture have occurred when an inexperienced manufacturer has not allowed complete mixing to take place before final testing of the concentration. Linde Air Products and its distributors have recently made this product nationally available.

Method 2: Use a mixing device diluting 100 percent O_2 to less than 40 percent.

This method uses readily available 100 percent O_2, but requires special apparatus for administration. Most mixing devices are very sensitive to seemingly unimportant changes in tubing diameter, length or pressure, etc.; they must be used exactly as directed by the manufacturer, and all openings kept clear and clean. Some marketed devices employing this principle are readily subject to serious misuse.

The device manufactured by the Melchior, Armstrong, Dessau Co., Ridgefield, N.J. (price $78*), is the least subject to misuse we know of. It must be kept clean. Delivered concentration does not vary at oxygen flow rates between 3 and 10 L/min. We have used oxygen flow rates of 5 L/min., which delivers about 25 L/min. of air-oxygen mixture to the incubator. Thus far we have not noted adverse effects on temperature control in two makes of incubators which we have subjected to this high ventilation rate, but this should be watched for and we suggest consulting individual incubator manufacturers for information on this subject. The device includes

(Continued on next page)

*The price of $78, according to the manufacturer, includes a pressure-reducing valve, which would be necessary for use with oxygen cylinders.—ED.

an excellent humidifier which can be used with compressed air when oxygen is not needed.

Method 3:

The manufacturers of the Isolette® infant incubator recommend use of oxygen at low flow rates (about 2 L/min.) to achieve concentrations slightly below 40 percent in their incubator. A special flowmeter accurate at these low rates with a very fine calibration and adjustment is manufactured by Hoke, Inc., Box 149, Englewood, N.J., and costs $29.50. Under careful supervision the method has proved to be satisfactory.

High oxygen concentrations (above 40 percent) are readily achieved intentionally with this method by increasing the flow rate of oxygen; this may be regarded as desirable by some but where this method is used, strict regulations must be enforced to avoid the hazard of having attending personnel make deliberate changes in the setting.

If the wire screen filter in the air intake of the Isolette® is not cleaned and dust is permitted to accumulate, this will reduce the air intake and increase oxygen concentrations above those called for in the instructions. Routine analysis of oxygen concentrations will reveal this condition. Where dust is not considered to be important, removal of the screens will entirely eliminate this hazard.

We have used Methods 1 and 2 with the Isolette® without recognized difficulty.

II Use an Oxygen Analyzer

Measure oxygen concentrations every time oxygen is used and at least every eight hours during longer periods of therapy.

Any control method or device is subject to defects and misuse. These are numerous, unpredictable and subtle. Individuals who have visited many premature nurseries have found many mistakes in the use of oxygen control devices that would be immediately revealed by oxygen analysis. They have also found great reluctance to purchase and use an analyzer. **Mistakes blind babies. Don't try to get along without an analyzer. See that it is used regularly when you get it.**

Analyzers that are sufficiently accurate and very simple to use are manufactured by Arnold O. Beckman, Inc., 1020 Mission Street, South Pasadena, California, and by Medical Instruments Research Associates, 2656 North Pasadena Avenue, Los Angeles, Calif. They cost less than $200. They should be checked against air (21 percent O_2) with each use, and must be handled reasonably gently. Batteries and desiccant must be changed occasionally.

A Note on Expense

The average cost for hospital care of a single premature infant is about $400.

What is the cost of a single unnecessarily blinded infant?

Oxygen control equipment for an entire premature nursery, **including an anlyzer,** costs less than this.

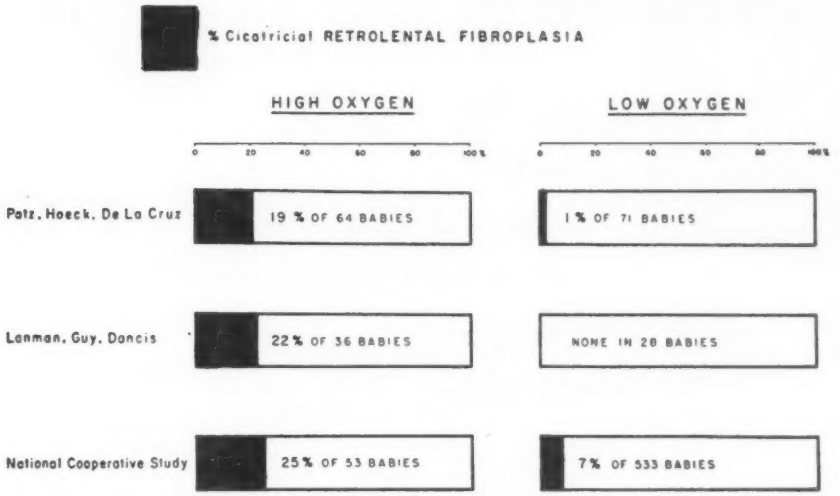
ED. NOTE: In addition to the products recommended by the authors on the basis of their experience, readers might like to get further information on oxygen analyzers and flowmeters available from other manufacturers. A partial list follows.

Among the other manufacturers of flowmeters are the National Cylinder Gas Co., the O.E.M. Corp., and the Puritan Compressed Gas Corp.

Oxygen analyzers also can be obtained from National Cylinder Gas Co., the O.E.M. Corp., and the Ohio Chemical & Surgical Equipment Co.

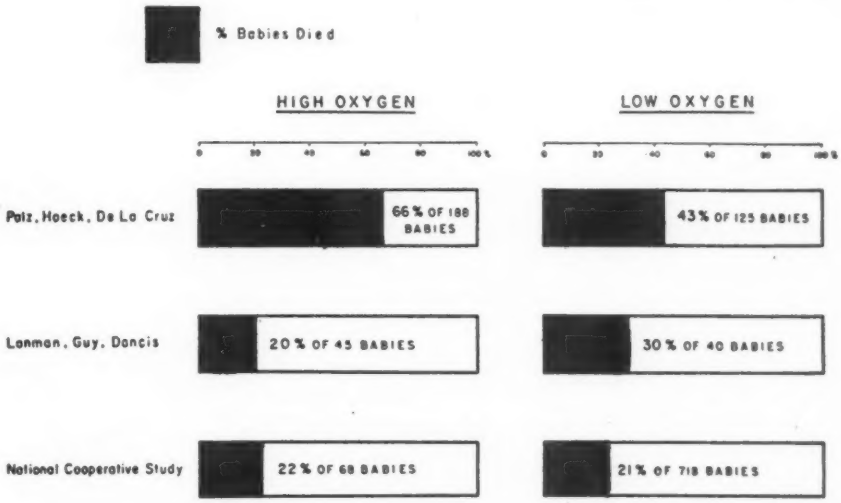
The Gordon Armstrong Co. has a new nebulizer for use with its incubators to limit oxygen concentration to 40 percent. Information on oxygen-limiting devices for use with other incubators can be obtained directly from the manufacturers—the American Sterilizer Co., the Continental Hospital Service, Inc., and others.

HIGH OXYGEN CAUSES BLIND BABIES


% Cicatricial RETROLENTAL FIBROPLASIA
HIGH OXYGEN
LOW OXYGEN
0 20 40 60 80 100 %
Patz, Hoeck, De La Cruz
19 % OF 64 BABIES
1 % OF 71 BABIES
Lanman, Guy, Dancis
22 % OF 36 BABIES
NONE IN 28 BABIES
National Cooperative Study
25 % OF 53 BABIES
7 % OF 533 BABIES

In these controlled studies, "low oxygen" means concentrations below 40 percent for as short a time as possible; "high oxygen" means usually 60 percent for prolonged periods.

OXYGEN LIMITATION IS SAFE


% Babies Died
HIGH OXYGEN
LOW OXYGEN
0 20 40 60 80 100 %
Patz, Hoeck, De La Cruz
66 % OF 188 BABIES
43 % OF 125 BABIES
Lanman, Guy, Dancis
20 % OF 45 BABIES
30 % OF 40 BABIES
National Cooperative Study
22 % OF 68 BABIES
21 % OF 718 BABIES

The differences in mortality between the high and low oxygen groups in each of these studies can reasonably be attributed to chance. No one has yet demonstrated a reduced mortality in premature infants by any kind of oxygen therapy in a controlled study.

Differences in mortality between the three studies probably result from differences in weight groups included.

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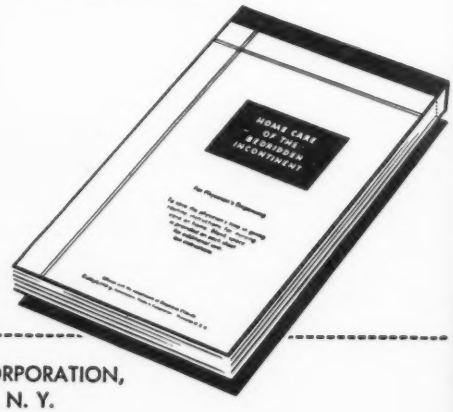

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Healthy Group Experiences Vital in Child Care

Pediatrics

By

Mable A. Ramspeck, R.N.*

● Provision of excellent medical and surgical treatment is not enough for total well-being of the hospitalized child. Among many considerations important in total patient care is the psychological effect of new group experiences upon the child undergoing treatment.

Teachers, social workers, nurses, doctors, and even administrators are beginning to recognize that not only are healthy group experiences within the hospital environment essential to the child's well-being, but they aid greatly in the prevention and treatment of maladjustment in children. Group relationships are particularly salient in the care of the physically handicapped child.

Such associations pose many problems. For instance, it is an accepted fact that there is no substitute for a child's feeling of being wanted and accepted, of being allowed to carry responsibility commensurate with his ability; of finding a place for himself not only at home and in society, but in groups with which he is associated while hospitalized. Yet, how does one achieve these ends in the hierarchy and formal organization of the hospital, with its varying skills and often conflicting ideas as to how the basic needs of each child will best be served? How does one meet the unique as well as the universal need of each small patient who brings to the hospital his own level of physical and social maturation—his own behavior pattern for dealing with life's experiences? How can one avoid compounding physical handicap with emotional disability? These are only a few questions which must be resolved if any approximation of total child care is to be achieved.

The Chicago unit, Shriners Hospital for Crippled Children, is one of 17 60-100-bed hospitals owned and operated by the Ancient Arabic Order of the Nobles of the Mystic Shrine for North America. It is maintained as a 100 percent philanthropy for the exclusive care of orthopedically handicapped children between the ages of infancy and 14 years

To qualify for admission, a child must be educable, not over 14 years of age, truly an orthopedic case amenable to correction or improvement. The family must be unable to pay for the treatment and care indicated.

Some children are carried on an outpatient basis solely; others are placed on a waiting list for hospitalization and will become inpatients as bed space permits. All children

(Continued on next page)

*Director, Shriners Hospitals for Crippled Children, Chicago.

Mable A. Ramspeck, R.N., director, Shriners Hospitals for Crippled Children, is shown with a group of children in the comprehensive outpatient clinic.

accepted, whether hospitalized or not, continue to be followed in the outpatient clinic until they are 15 years of age. The average length of hospitalization is four months, although some youngsters may be hospitalized on numerous occasions over a period of years.

The financial support for these hospitals is derived from the $5 annual hospital assessments paid by more than 800,000 Shriners, from individual and corporate gifts and bequests, and from the money obtained through the many Shrine fund-raising activities, such as circuses, athletic events, and club activities.

The philosophy of the Chicago unit embraces three major concepts: (1) Provision of outstanding medical and surgical care; (2) administration of large measures of tender loving care, tempered by wisdom, objectivity and humor, and (3) uninterrupted efforts of all personnel to maintain an atmosphere of warm, friendly, homelike pleasantness as opposed to cold, impersonal, institutional efficiency.

PHYSICAL PLANT IMPORTANT

Much attention is given to the physical plant. This two-story rambling building, set among spacious grounds, does not resemble many traditional urban hospitals. Rolling lawns, flower gardens, play areas, a badminton court, an orchard, a barbecue, patio and open vistas lend an air of freedom rather than restriction. Railroad tracks do not usually enhance hospital property, but the suburban railroad which lies just beyond the hospital orchard provides endless fascination for the boys whose ward it opposes.

Inside, there are cheerful colors, interesting wall murals, growing plants, aquariums, parakeets, television, record players, books, diminutive furniture and other children's paraphernalia. Large windows permit sunshine to flood open wards and play areas. Ramps leading from each of the four wards give access out-of-doors to every youngster. Even children in bed traction are moved from area to area and out-of-doors, thereby being enabled to participate in wholesome play, school and ward activities. Gay window curtains, checkered tablecloths, specially designed dressing tables for the girls and work benches for the boys, give evidence that this is truly a place designed for children's happiness.

All of the service and patient areas, except the surgical suite, are on the first floor. This arrangement makes it possible for the children to move freely about the whole hospital. Except for the main diet kitchen, there is no area where they may not go, with supervision. The recreation hall is the scene of many hilarious events. There is an elaborate table-mounted electrical train, a juke box, piano, record player, television set, ping-pong table, inlaid floor shuffleboard, movie equipment, and arts and crafts materials. An adjoining small kitchen is enjoyed by both girls and boys in the preparation of party snacks. Holidays are always especially festive, with both children and staff participating in planned activities.

'BANANA' CARTS FOR MOBILIZATION

Since these children are not ill, they are not treated as such. With the exception of their physical handicap, they are considered representative of normal, healthy youngsters, even though the setting here is unusual. Prompt postsurgical ambulation finds the majority of them up and about, using crutches, wheel chairs or "banana" carts for mobilization. They are engaged in many daily activities, with school not the least of these.

Academically and socially, school is a most important facet of life for the school-age child. Thanks to the Chicago Board of Education, the Chicago unit has a fully accredited school program. Three teachers, supplied to the hospital free of cost, provide school room, and, when necessary, bedside instruction.

The three schoolrooms, located away from the wards, resemble the rural school which has several grades in the same room. Such educational facilities enable the child hospitalized for months or even years over a period of repeated hospitalizations, the opportunity of uninterrupted progress in school. Because of this somewhat protected environment, some students forge ahead of their home class.

Spring may mean eighth-grade graduation exercises for one or more students. The hospital presents the student or students with a handsome gift. Parents and friends are invited to attend the program. There are the traditional speeches, with the principal of the Burbank School, under whose jurisdiction this hospital school falls, awarding the diplomas. Attending staff members look on with pride, as if the children were their own.

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From these dynamic discussions many ideas for improved patient and child care have evolved. One of the most tangible of these has been the pre-surgery orientation routine for older children. Realizing that no child goes to surgery without fear, which, if mishandled, might be quite traumatic to him, the staff became concerned with steps to allay such fear.

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The "worry doctor," as the children refer to the psychiatrist, has helped in other areas of feeding, regression, enuresis, peer group relationships, parental guidance, and staff maturity. He plays an extensive role, but he is only one of the team of medical specialists. The pediatrician gives continuous guidance in all pediatric areas. A house dentist takes care of the oral and dental hygiene needs. When complications or unusual diagnostic problems arise in other areas of specialization, the necessary counsel is obtained from the extensive consulting staff.

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accepted, whether hospitalized or not, continue to be followed in the outpatient clinic until they are 15 years of age. The average length of hospitalization is four months, although some youngsters may be hospitalized on numerous occasions over a period of years.

The financial support for these hospitals is derived from the $5 annual hospital assessments paid by more than 800,000 Shriners, from individual and corporate gifts and bequests, and from the money obtained through the many Shrine fund-raising activities, such as circuses, athletic events, and club activities.

The philosophy of the Chicago unit embraces three major concepts: (1) Provision of outstanding medical and surgical care; (2) administration of large measures of tender loving care, tempered by wisdom, objectivity and humor, and (3) uninterrupted efforts of all personnel to maintain an atmosphere of warm, friendly, homelike pleasantness as opposed to cold, impersonal, institutional efficiency.

PHYSICAL PLANT IMPORTANT

Much attention is given to the physical plant. This two-story rambling building, set among spacious grounds, does not resemble many traditional urban hospitals. Rolling lawns, flower gardens, play areas, a badminton court, an orchard, a barbecue, patio and open vistas lend an air of freedom rather than restriction. Railroad tracks do not usually enhance hospital property, but the suburban railroad which lies just beyond the hospital orchard provides endless fascination for the boys whose ward it opposes.

Inside, there are cheerful colors, interesting wall murals, growing plants, aquariums, parakeets, television, record players, books, diminutive furniture and other children's paraphernalia. Large windows permit sunshine to flood open wards and play areas. Ramps leading from each of the four wards give access out-of-doors to every youngster. Even children in bed traction are moved from area to area and out-of-doors, thereby being enabled to participate in wholesome play, school and ward activities. Gay window curtains, checkered tablecloths, specially designed dressing tables for the girls and work benches for the boys, give evidence that this is truly a place designed for children's happiness.

All of the service and patient areas, except the surgical suite, are on the first floor. This arrangement makes it possible for the children to move freely about the whole hospital. Except for the main diet kitchen, there is no area where they may not go, with supervision. The recreation hall is the scene of many hilarious events. There is an elaborate table-mounted electrical train, a juke box, piano, record player, television set, ping-pong table, inlaid floor shuffleboard, movie equipment, and arts and crafts materials. An adjoining small kitchen is enjoyed by both girls and boys in the preparation of party snacks. Holidays are always especially festive, with both children and staff participating in planned activities.

'BANANA' CARTS FOR MOBILIZATION

Since these children are not ill, they are not treated as such. With the exception of their physical handicap, they are considered representative of normal, healthy youngsters, even though the setting here is unusual. Prompt postsurgical ambulation finds the majority of them up and about, using crutches, wheel chairs or "banana" carts for mobilization. They are engaged in many daily activities, with school not the least of these.

Academically and socially, school is a most important facet of life for the school-age child. Thanks to the Chicago Board of Education, the Chicago unit has a fully accredited school program. Three teachers, supplied to the hospital free of cost, provide school room, and, when necessary, bedside instruction.

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Jon Iverson (far left), Elizabeth Garrow, Steven Slane, and Perry Nelson beam with delight at the annual Blue Cross party for hospitalized children. At right: Mrs. Wilma Scott, R.N., shows Michael Clarke a tempting Blue Cross cake.

FEATURE OF HOSPITAL WEEK

'Mr. Moon' Entertains at Party

Parties for children in hospitals have been a feature of National Hospital Week celebrations in Portland, Ore., every year since 1952, thanks to Northwest Hospital Service (Blue Cross).

The 1957 party was held May 16 for pediatric patients at Providence Hospital. The children were entertained by 'Mr. Moon' (Ed Leahy), and Art Morey and their puppet companions—television personalities from a local station, KOIN-TV. Patients were treated to cake and ice cream, and received coloring books, crayons, and party hats for the big event.

Below: Art Morey and Mr. Moon with Cheri Lynn Ray.

BOOK REVIEW

TREATMENT OF THE CHILD IN EMOTIONAL CONFLICT. By Hyman S. Lippman, M.D. New York: The Blakiston Division, McGraw-Hill Book Co. 298 pp. $6.

Treatment methods used at the Amherst H. Wilder Child Guidance Clinic, St. Paul, Minn., are presented in this look through case material, along with the theory behind their use.

They are based largely on the principles learned by the author (clinic director) during psychoanalytic training in the seminar in child analysis conducted by Anna Freud and the seminars and demonstration clinics of August Aichhorn.

Of particular interest is the chapter on obsessional neurosis in children. Major sections of the book are on approaching therapy, the neurotic child, the child with personality problems, the child who "acts out," the child with a "tenuous hold on reality," prevention, and principles of therapy.

Dr. Lippman emphasizes that more social workers are needed in order to enlarge and extend improvements in educational programs, juvenile court procedures, and for establishment of more child guidance clinics.

ASMT Discusses Light Waves, Liability for Negligence

Technical papers, symposiums and study groups took up most of the available time for the 2,000 medical technologists and others attending the silver anniversary meeting of the American Society of Medical Technologists in Chicago. Sixty-eight technical papers were presented. TOPICS' report follows:

Plasma Clotting Time Helps Find Defects

Especially Valuable
In Hemophilic Type

The plasma clotting time or recalcification time is a helpful test to use in picking up defective clotting, especially of the hemophilic type. In this test the calcium is replaced in oxalated plasma.

We prefer Dr. Owen's modification of Drs. Biggs and MacFarlane's plasma clotting time, which involves determining a clotting time on equal amounts of calcium chloride and plasma which are added together in a 37°C. water bath. Normal value is 90 to 150 seconds.

Since this test involves the whole blood-clotting process, it could take the place of a Lee White or other whole blood-clotting tests. Since it is made on oxalated blood, it can be done in duplicate without inconveniencing the patient, and can be done at the convenience of the technician.

A prolonged plasma clotting time is found in cases of autoprothrombin I, autothrombin II, ac-globulin, prothrombin and fibrinogen deficiencies, classical hemophilia, and cases of circulating anticoagulants.

The method of adding a specific factor is adaptable to this test and is especially helpful in differentiating classical hemophilia and autoprothrombin II deficiencies. If $BaCO_3$ adsorbed plasma will shorten a prolonged plasma clotting time, hemophilia is indicated, and autoprothrombin II (Christmas disease) can be ruled out.

If the addition of fresh, normal plasma does not shorten a long plasma clotting time, an inhibitor is indicated. If the cause is a deficiency of ac-globulin, it will be corrected with adsorbed rabbit plasma.—**Mary June Caldwell, M.T. (ASCP),** Department of Laboratory, Henry Ford Hospital, Detroit.

Technologist Liable for Negligent Acts

Death Rate 1 per 1,000-3,000
Blood Transfusions

The technologist is personally liable for any injuries resulting from his own negligent act, whether the employer is liable or not.

The increasing use of blood in the operating room for patients under anesthesia makes it necessary to depend heavily upon the laboratory. The technologist is responsible for the human factor.

Blood-transfusion technic has become so routine that physicians have the tendency to disregard the inherent dangers that accompany blood-plasma transfusions. Mortality due to blood transfusions is about one death in every 1,000 to 3,000 transfusions. About 3,500,000 transfusions are given annually in this country. Blood transfusions, as a cause of death, rank with appendicitis or anesthesia.

Transfusions have been given by some physicians to facilitate more rapid recuperation of a "run-down" patient. The transfusion of blood is associated with significant medical hazards and should be prescribed only when it is essential to the patient's recovery.

What is the liability of a blood bank for injuries to donors not connected with the scientific activities of the

(Continued on next page)

Leanor Haley, Ph.D., New Haven, Conn., new president, American Society of Medical Technologists, is assistant professor of medical microbiology, Yale University School of Medicine. She succeeds C. Patton Steele.

Participants in a symposium on radioactive isotopes at opening session were (l. to r.): John A. Cooper, M.D., associate professor of biochemistry and assistant dean, Northwestern University Medical School, Chicago; Ernest Beutler, M.D., assistant professor of medicine, University of Chicago School of Medicine; Melba Robson, B.S., M.T. (ASCP), and Edna Marks, R.N., M.T. (ASCP) both of Argonne Cancer Research Hospital, University of Chicago; Robert Hasterlik, M.D., associate professor of medicine, University of Chicago School of Medicine, and associate director, Argonne Cancer Research Hospital; Clifford Gurney, M.D., assistant professor of medicine, University of Chicago School of Medicine; and Y. Thomas Oester, M.D., professor of pharmacology and chairman, department of pharmacology, Stritch School of Medicine, Loyola University, Chicago.

The silver anniversary convention of the American Society of Medical Technologists was formally opened by back row (l. to r.): Lall G. Montgomery, M.D., Board of Registry of Medical Technologists; Norris J. Heckel, M.D., Chicago Medical Society; Kenneth B. Andrus, chairman, exhibitors' committee; Josiah J. Moore, M.D., treasurer, American Medical Association, Chicago, and C. Patton Steele, immediate past president, ASMT. Front row (l. to r.): Sarah H. Hardwicke, M.D., American Hospital Association, Chicago; Frieda H. Clausen, past president, ASMT; Opal E. Hepler, M.D., Chicago, American Society of Clinical Pathologists, and Aileen B. Wright, Jacksonville, Ill., president, Illinois Medical Technologists' Association.

bank? It is similar to a hospital's liability for failing to maintain its premises and equipment in reasonably safe condition and to protect the user from hidden dangers.

Precautions necessary to avoid liability are:

- Use a recognized method of collecting blood, a sterile technic, and pyrogen-free containers.
- Provide adequate controls so that the containers will not become contaminated and the blood will be stored at the proper temperature.
- Be sure the blood is correctly typed. The individual containers in which the blood is stored should be accurately labeled.

A blood bank must be able to prove that the container and the blood were prepared with reasonable care, using all methods known to keep the blood free from contamination.

The utmost care must be used in selecting a technologist who is to handle the actual technic of phlebotomy.

A transfusion accident is practically inevitable once the bottle of blood has been mislabeled.

Many accidents are caused by untrained interns and physicians who perform tests at night or on holidays, in the absence of regularly assigned technologists.

Precautionary measures must be taken because courts may hold hospitals and blood banks to be insurers of the quality of blood they furnish. Hospitals should change the billing practice for supplying blood. Instead of making a charge for blood, they should make a charge for use of their facilities and the services of the technicians who assist the physician. There should be a contractual provision between the patient and the hospital to the effect that the hospital doesn't guarantee the quality of blood furnished.

A supervising physician should always be present in the blood bank.

Adequate records are very important. A record should contain: name of the donor, results of pre-phlebotomy examination, the consent to the procedure, the correct blood type of the individual, and reference to observations made during phlebotomy. Also included should be: requests for blood for transfusion, the type of blood requested, the type of blood furnished, and the date.—**George E. Hall, M.D.,** Legal Department, American Medical Association, Chicago.

Light Waves May Influence Sex

Fluorescent Lamps Cause More Female Fish

Certain light waves that control the sex of flowers may have something to do with determining the sex of higher animals—maybe even humans.

Investigations to date have been limited to fish. A majority of females have been obtained by submitting guppies to fluorescent lamp rays.

Rays were beamed on parent fish for eight-hour periods. The fish born were 80 percent female and 20 percent male. Normally the sex ratio is 50-50.

Bluish-tinted fluorescent lights caused pumpkins to develop all female flowers, while pink rays made the plant bring forth male blooms.

If the tests are substantiated, physicians might have to check the possible effect of fluorescent lighting as a genetic influence on school children. —**John Ott, Jr., Sc.D.,** Winnetka, Ill.

The outdoor garden of the Little Company of Mary Hospital was the site of the opening social event for more than 1,000 laboratory technologists. Standing in the receiving line (l. to r.): Isabelle Havens, laboratory department, University of Chicago, and chairman, silver anniversary convention committee; J. J. Moore, M.D., Chicago, treasurer, American Medical Association; Mother Mary Bernard, Superior General, Little Company of Mary Order, Rome, Italy; Annie Laurie Peeler, M.S., M.T., (ASCP) and co-chairman, silver anniversary convention committee; C. Patton Steele, M.T. (ASCP), past president, ASMT; Leanor Haley, Ph.D., new president; Ruth Drummond, Muncie, Ind., Board of Registry, American Society of Clinical Pathologists; Opal E. Hepler, M.D., Chicago, American Society of Clinical Pathologists; Rose Matthaei, executive secretary, ASMT, Houston, Tex., and Kathleen Dean, treasurer, ASMT.

keeping tab on the lab

By Marlene Burgess*

• At times laboratory work which includes performing newer tests, such as the protein-bound iodine, or dramatic tests, such as cross-matches for blood transfusions, may seem more interesting than what is sometimes thought of as the routine work load. Technicians who handle the hematology or urine examinations feel that the work is monotonous or dull. However, every phase of laboratory work is important. The physician in charge of the patient awaits with as much interest an accurate hemoglobin determination as he does a correct cross-match.

The greatest problem the author meets in hematology laboratories is the failure to run a standard test with the patient's samples. A commercial standard for hemoglobin determinations is now available. Occasionally the physician's office and the hospital laboratory do not arrive at the same hemoglobin determinations. This continuing discussion may be terminated by the use of such a standard.

More and more laboratories are making the change from the routine red-cell count to micro-hematocrit. Those who have made this change have found it quite satisfactory; the micro-hematocrit is not only easier and quicker but probably far more accurate.

With increasing detection of hematological disorders and with our growing knowledge of these diseases, more importance is being placed on the many hematological tests. Each one therefore should be performed with great care and accuracy.

The quality of the differential count of cells on the blood smears depends greatly on the quality of the stain used. Using stain for long periods of time even after it has precipitated is false economy. This destroys the clear-cut picture of the differential which the technician must see. Too acid or too basic staining technics should, of course, be avoided. The stain has to be "just right."

In performing prothrombin time tests, all glassware must be chemically clean and the temperature of the water bath must be correct. Either of these may cause fallacies in the results.

Coagulation tests may also be influenced by many factors, ranging from the temperature of the room to the instruments used for sticking. The capillary tube method for coagulation is generally used on the routine admission cases or on children when it is not feasible to stick the vein. If the simpler tests are abnormal, of course, other tests should be done.

Many excellent helps for the hematology laboratory are available from pamphlets distributed by manufacturers. These should be secured by every laboratory. Posters may be made using these illustrations for the laboratory to keep for reference. Having pictures of the cells likely to be seen, or the step-by-step discussion of newer tests outlined, will be of great assistance in performing the work, as well as beneficial for instruction of students.

A slide file in the hematology laboratory is essential to good work. Then, when an abnormal cell is seen, it may be compared to slides on which cells have already been identified.

If there are any questions in regard to the hematology laboratory, we will be glad to pursue specific items further.

*Laboratory consultant, Division of Hospital Services, Georgia Department of Public Health, Atlanta.

Above: Mary Frances Eichman, chief medical technologist, Women's Medical College, Philadelphia, was named "the outstanding line technologist of the year." She is shown accepting a Steuben glass bowl symbolic of the achievement from O. M. Loytty, Corning Glass Co., Corning, N.Y., the award's sponsor. Miss Eichman also received a check for $500.

Mrs. Bernice Thiessen Elert, medical technologist, Charles T. Miller Hospital, St. Paul, receives the Kimble Medical Technology Award from E. J. Rhein, Kimble Glass Co., the award's sponsor. Besides a silver plaque, Mrs. Elert received a check for $500 as part of the award, given for her original work in developing a "new ultraviolet spectrophotogrametric method for determination of d-tubocurarine chloride in plasma."

Prize-Winning Papers Named at Meeting

Numerous awards were given for papers delivered at the ASMT convention. The awards, titles of papers, and the names of prize winners in each category follow:

John Johnson, M.T. (ASCP) supervisor, diagnostic laboratories, Miami Valley Hospital, Dayton, O. received the Hillkowitz memorial award for "Microhematocrit vs. Erythrocyte Count."

The parasitology award for "Detection and Incidence of Amebiasis in Northern Mississippi" was awarded to Margaret E. Jackson, M.T. (ASCP), Greenwood, Miss.

Patricia Palenske, B.S., student technologist, Blodgett Memorial Hospital School of Medical Technology, Grand Rapids, Mich., received the Claudia M. Stannard award for "The

(Continued on next page)

Mr. Purdy *slipped*...

and picked up a $5,000 Profit

A fall on his waxed floors led Mr. Purdy to call in a LEGGE Maintenance Specialist. Here's what he learned:

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AND LEGGE Polishes stay on the floor longer, rarely require the big stripping job. This means savings of up to 50% on labor, 25% on materials.

Mr. Purdy made a lightning calculation. "Eureka," he shouted. "That's over $5,000 in Found Money. At 5% profit, I'd have to do $100,000 more business to clear that much!"

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Role of the Laboratory in the Diagnosis of Fibrocystic Disease of the Pancreas."

The Registry of the American Society of Clinical Pathologists awarded first place to Frances B. Wideman, M.T. (ASCP), School of Medical Technology, St. Vincent's Hospital, Birmingham, Ala., for her paper on "Adventure in a Small Clinical Laboratory."

The ASMT gave first place to Edith L. Bossom, A.B., M.T. (ASCP), of the blood bank, University of Kansas Medical Center, Kansas City, Kan. for her paper on "An AB Hemolysin Screening Test as a Routine Blood Bank Procedure."

FOUNDATION AWARDS

"An Analysis of the Criteria Used to Determine the Pathogenesis of Staphylococci Including a Comparison of the Slide and the Tube Coagulase Test" won first place in the bacteriology section of the Scientific Products Foundation awards for Mrs. Dorothy L. Ness, M.T. (ASCP), Minneapolis, Minn.

First prize in the blood banking and blood typing section was won by Sister M. Francis Regis Dobiesz, B.S., M.T. (ASCP), St. John's Hospital, Springfield, Ill., for "The Problems in Preparation of Blood for Du Erythroblastosis and 'Supercoating' of the Infant's Erythrocytes."

Bessie M. Keating, M.T. (ASCP), Dayton, O., took top honors in the blood chemistry division for "The Relationship of Serum Cholesterol to Blood Lipid Patterns."

"A Photoelectric Method for Determination of Erythrocyte Osmotic Fragility" won first prize in the hematology division for Barbara G. Cohen, student at the University of Minnesota.

First place in the histology division went to Ann Morgan, M.T. (ASCP), supervisor of histology, Mt. Sinai Hospital, Chicago, for "Special Stains: Their Needs and Problems."

Wilma Spurrier, M.T. (ASCP), hematology laboratory, Hektoen Institute for Medical Research, Cook County Hospital, Chicago ranked first in the serology division for "Practical Immunohematology Procedures for the Routine Laboratory."

VA's Highest Award Goes to Nurse

Ruth Addams, deputy director of nursing service, VA Central Office, Washington, D.C., has been given the VA's exceptional service award.

She was cited for contributions to nursing care and welfare of veteran-patients, including planning and development of VA's community home nursing program, which extends nursing care to eligible veterans in their homes through contracts with local visiting nurse agencies and fee-basis nurses.

Announce Grants for Future Mental Hospital Chaplains

The National Academy of Religion and Mental Health has announced a $10,000 grant from Smith, Kline & French Foundation to provide fellowships for theological students and clergymen of all faiths who wish to become chaplains in mental hospitals.

Cancer Survival Rate Increasing, Survey Shows

The percentage of cancer patients surviving five years or more is slowly increasing, an eight-year follow-up study of 12,488 cases reveals.

Data from the Cancer Registry, Charity Hospital, New Orleans, La., show that 28 percent of cancer patients treated since 1948 survived at least five years.

Women are cured more often than men, the study revealed, with a 33 percent survival rate, as contrasted with 28 percent for males. An important factor is earlier reporting of symptoms by women.

Women develop cancer earlier, at an average age of 55, as against 61 for men.

Of cancers treated early, 53 percent were cured (women, 60 percent; men, 47 percent).

Percentages of five-year survival in various cancer sites, according to the report, are: skin, 65; female genitals, 36; mouth and pharynx, 35; breast, 35; male genitals, 32; urinary organs, 18; stomach and digestive tract, 10; lymph tissues and blood-forming organs, 7.

Rehabilitation Space Needed In Future Mental Hospitals

Treatment of patients formerly thought incurable has changed the whole mental hospital picture, according to Harry H. Botts, M.D., manager, VA Neuropsychiatric Hospital, Chillicothe, O.

Even if hospitals are to accommodate the same number of patients, more space will be required for physical medicine and rehabilitation clinics for patients being restored to mental health, Dr. Botts said.

clinical notes

Tranquilizer Effect On Airway Defenses

The possibility that a diminution of air-passageway defenses may be a complication of tranquilizer therapy is advanced by Feldman in the May, 1957 issue of the *American Journal of Psychiatry*.

He reports on the death of a patient after convulsive-like movements. The patient has been on tranquilizer therapy for three months. Nineteen days previously he had experienced what nursing personnel described as a grand-mal seizure, had been placed upon Dilantin, and had had no further seizures.

The author believes that the patient did not have a seizure just before death, but rather a failure of the cough reflex as well as the air-passageway defenses, so that the response to aspiration of food into the lungs was ineffective. At autopsy, food particles were found in the bronchi as well as in the larger and terminal alveoli, which were completely occluded.

Wardell, in an earlier report on three deaths in the course of reserpine therapy, implied that a result of this therapy may be a predisposition towards a pneumonic process and a diminution of air-passageway defenses.

BCG Vaccination Advocated For Infants, Children

BCG vaccination is safe and effective and would aid materially in controlling tuberculosis in the regions of high incidence, conclude members of the medical advisory committee of Research Foundation, in a special report published in the *Journal of the American Medical Association* 164:951-54.

The multiple-puncture method has practically eliminated all complications after vaccination, they point out, and the advent of freeze-dried vaccine has made it possible to standardize completely the viability, potency, and sterility of BCG, as well as to determine its safety before distribution.

In a recent British study comparing vaccinated with nonvaccinated children (all were tuberculin-negative at the beginning of the study), there was an 82 percent reduction in the number of cases in vaccinated individuals.

This reduction in incidence should more than compensate, the authors believe, for the decline in usefulness of the tuberculin test for determining incidence of infection in localized areas of high prevalence.

BCG is preferable to chemoprophylaxis, they say, because it raises the patient's immunity to tuberculosis, its effect lasts for several years, it has had a large-scale trial, and it is effective after vaccination without further cooperation by the patient.

The evidence is strongly in favor of vaccination of infants and children, in areas of high incidence, with re-vaccination at suitable intervals, to maintain as high a level of immunity as possible, they conclude.

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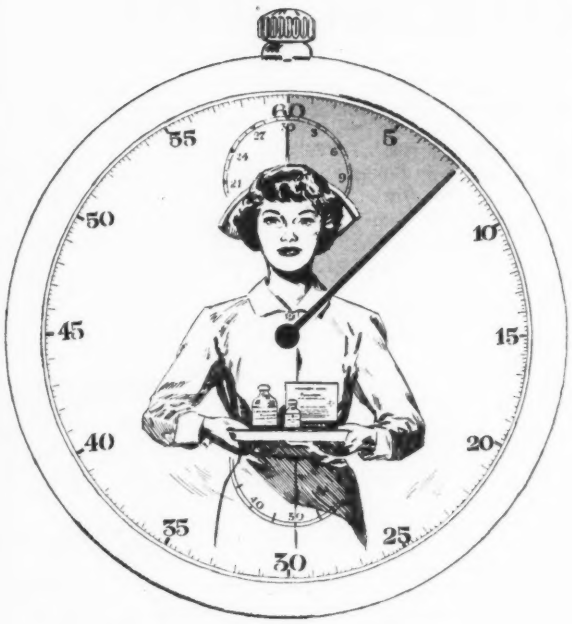

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Officers of the newly formed AORN of the Inland Empire of Southern California are (l. to r.): Mrs. Glenna Woldruff, San Antonio Community Hospital, Upland, treasurer; Mrs. Elsie May, Kaiser Foundation Hospital, Fontana, secretary; Barbara Hohner, O.R.S., Kaiser Foundation Hospital, president; Celeste Jumper, assistant O.R.S., Riverside (Calif.) Community Hospital, vice-president; Luther Lipsitt, Redlands Community Hospital, board of directors; Mrs. Antoinette Diederich, O.R.S., and Gertrude Sutliff, surgical supply supervisor, both on the board of directors, and both from Riverside Community Hospital.

Prevention, Control of Infectious Hepatitis

By E. G. Klarmann, Sc.D.*

WHILE infectious hepatitis and serum hepatitis (with or without the attribute "homologous") bear considerable clinical resemblance to each other, the methods of their control differ because of the difference with which each is acquired and spread.

Both infectious hepatitis and serum hepatitis are widely distributed, affecting urban as well as rural areas, in this country and abroad.[1-3] Nevertheless, comparatively little information is available as to the resistance of the causative virus (or viruses) to chemical and physical agents, because to date we have no experimental animal in which such virus can be propagated for investigational purposes. Thus far, man appears to be the only animal susceptible to hepatitis virus infection.

What little information is available, however, tends to indicate that the hepatitis virus is more resistant to heat and to chemicals than most vegetative pathogenic bacteria, but considerably less so than bacterial spores.

Infectious hepatitis has been known for a long time. Designated variously as "catarrhal jaundice," "infectious jaundice," etc., it used to reach tremendous proportions particularly in wartime. Severe outbreaks occurred among the military personnel during the Napoleonic wars, the American Civil War, both World Wars and the Korean conflict.

Serum hepatitis became a major problem during World War II when more than 50,000 cases of jaundice made their appearance following injection of yellow fever vaccine containing human serum.

O.R. personnel
will be interested in
"Care and Sterilization of
Rubber Gloves"
beginning on page 101

*Vice-president and manager of technical services, Lehn & Fink, Inc., New York City.

Credit for the first recognition of serum hepatitis as a virus disease, of its parenteral mode of transmission, and for the determination of its incubation period belongs to Flaum and his associates, who drew the correct conclusions from observations made during an outbreak of a hepatitis epidemic in a Swedish hospital in 1926.[4] Its immediate cause was attributed to an infected spring lancet used to collect blood specimens for measuring fasting blood-sugar levels. Moreover, Flaum noted the incubation period of the disease to be about 90 days, and he made the correct prediction that the epidemic would stop in 90 days if disposable needles were used hereafter for collecting blood specimens.

DISTINGUISHING FEATURES

Infectious hepatitis and serum hepatitis differ in both their clinical and epidemiological features. The incubation periods are 15 to 40 days, and 60 to 160 days, respectively. For practical reasons two different viruses are assumed to be responsible for the two forms of hepatitis, although this does not exclude the possibility of their being variants of a single virus; nor has it been established that more than two viruses might be involved. At any rate, *virus A* is associated with *infectious hepatitis*, *virus B* with *serum* hepatitis.

An attack of infectious hepatitis appears to confer immunity to virus A, but not to virus B. Conversely, an attack of serum hepatitis immunizes against virus B, but not against virus A.

With reference to the spread of hepatitis and its prevention, it is noteworthy that virus A, but not virus B, has been demonstrated to occur in feces (during the acute phase of the disease).

No conclusive results have been obtained as to the infectivity of nasopharyngeal washings obtained from cases harboring either infectious or serum hepatitis; equally inconclusive have been experiments with the urine of hepatitis patients.[6] However, extremely small quantities of blood or fecal matter containing virus A precipitate the disease when administered either orally or parenterally. To illustrate, human volunteers have developed it from as little as a 10^{-20} dilution of infected feces.[7]

Individuals infected with virus A may not show any symptoms for months or even years after clinical recovery, while continuing to act as carriers of virus A all this time.[5, 9] Virus B has been shown to persist in the blood stream for as long as five years after its first detection. Future studies will have to indicate whether this virus can remain in the blood in an infective form for even longer periods of time.

Virus A, when present in serum or feces, survives heating to 56°C. (132°F.) for 30 minutes. When frozen and kept at -10 to -20°C. (14°-4°F.), it remains active for a year or longer. It resists chlorinated water for 30 minutes, although it may be inactivated by this amount of chlorine if the organic matter in the water is first caused to coagulate and to settle.[16]

In the presence of serum, virus B survives brief heating to 60° C. (140°F.), but it is inactivated in human albumin by being kept at this temperature for 10 hours. When held at -10 to -20°C., it remains infective for about four and one-half years. In serum, virus B is not inactivated in the presence of merthiolate (0.05%), phenol (0.25%), or tricresol (0.20%). However, there are indications that virus B loses its infectivity in plasma which is stored at room temperature for three to six months.[9]

Recent experiments indicate that ultraviolet irradiation of pooled plasma should not be relied upon to inactivate any adventitious virus, although experimental infection with irradiated virus-bearing plasma induces a longer incubation period, also a milder course of illness, as judged by its shorter duration and by lower bilirubin levels. Complete virus inactivation by ultraviolet rays can be achieved only at a point at which a substantial change in the plasma proteins has taken place.[10]

However, viral hepatitis has been treated successfuliy with the aid of ultraviolet irradiation of the blood. The procedure employed consisted of withdrawing 15 ml. of blood per pound of body weight, citrating it, exposing it to radiation in the range of 2400 to 3900 A, and returning it to the patient.[11]

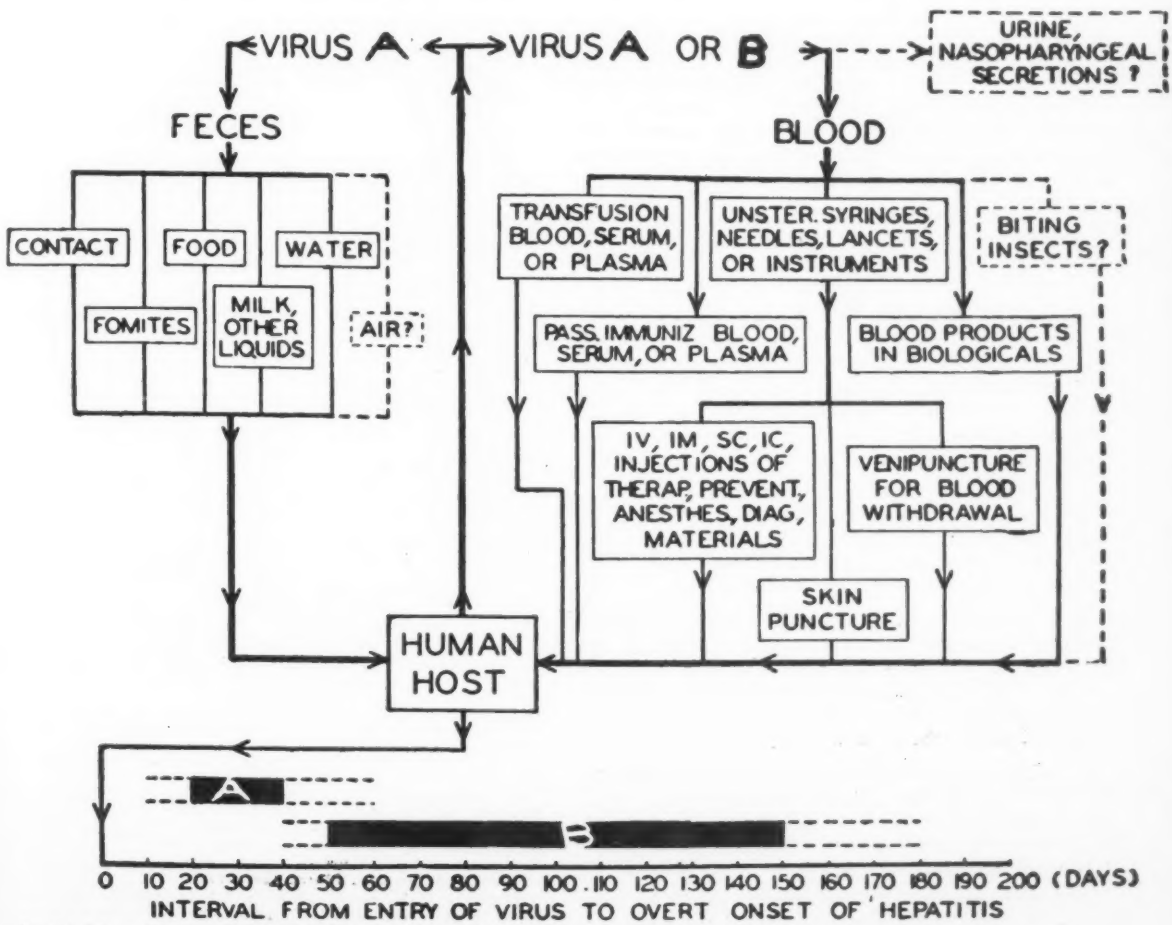
SPREAD OF HEPATITIS

Infectious hepatitis is spread primarily by the fecal-oral route.[1, 4, 12, 13] In addition to such direct contact, there are instances indicating the possibility of food-borne,[14] water-borne,[6, 15-17] or milk-borne[18] outbreaks.*

In view of the copious occurrence of virus A in fecal matter during the acute stage of infection, contamina-

(Continued on next page)

*Infectious hepatitis A is not to be confused with infectious jaundice or Weil's disease which is caused by *Leptospira icterohemorrhagiae*, a microorganism belonging to the class of spirochetes. In this case the infectious germ is carried by urine as well as by blood; the former may serve to transmit the disease not only to man but also to animals which in turn can give it to man through urine pollution.[21] A related disease is the "seven-day fever" found in the Orient and caused by another spirochete, *Leptospira hebdomadis*.


VIRUS A
VIRUS A OR B
URINE, NASOPHARYNGEAL SECRETIONS ?
FECES
BLOOD
CONTACT
FOOD
WATER
FOMITES
MILK, OTHER LIQUIDS
AIR?
TRANSFUSION BLOOD, SERUM, OR PLASMA
UNSTER. SYRINGES, NEEDLES, LANCETS, OR INSTRUMENTS
BITING INSECTS?
PASS. IMMUNIZ BLOOD, SERUM, OR PLASMA
BLOOD PRODUCTS IN BIOLOGICALS
IV, IM, SC, IC, INJECTIONS OF THERAP, PREVENT, ANESTHES, DIAG, MATERIALS
VENIPUNCTURE FOR BLOOD WITHDRAWAL
SKIN PUNCTURE
HUMAN HOST
A
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 (DAYS)
INTERVAL FROM ENTRY OF VIRUS TO OVERT ONSET OF HEPATITIS

Reprinted from the *New England Journal of Medicine*, 240:445, 1949.

tion of fingers and food may take place readily; where sanitation is inadequate, flies and other insects may act as vectors of the infection. There exists a definite relationship between infectious hepatitis and the contamination of surface soil by human excrement.[19, 20]

Since virus A occurs also in the blood during the acute stage of infectious hepatitis, it can be spread also by means of clinical or surgical procedures such as venipunctures, injections, transfusions, etc. Virus B infection, leading to serum hepatitis, takes place only following parenteral penetration.

The risks of serum hepatitis are still not being appreciated sufficiently by some segments of the medical and nursing professions.[21,22] Probably, this is due to the considerable length of the incubation period of 60 to 160 days, which tends to conceal the cause-and-effect relationship, e.g., between a blood transfusion and the subsequent outbreak of the disease. Incidentally, the term "serum hepatitis" is not completely descriptive, since virus B can be transmitted by blood products other than serum, including whole blood, plasma, fibrinogen, and thrombin. Infection with hepatitis virus has been observed also in individuals who received injections of vaccine, insulin, antibiotics, etc., by means of syringes or needles retaining residues of virus-infected blood. Dental instruments, too, may transmit hepatitis virus when contaminated.

To date there is no direct evidence of transmission of either virus A or virus B by blood-sucking insects.

Hepatitis virus B can pass from mother to child, through the placenta.[4]

CONTROL OF VIRUS INFECTION

The preceding broad statement as to the occurrence and transmission of virus A and virus B suggests certain rational measures designed to achieve control and prevention of the spread of viral hepatitis.

As a general precaution, no potential blood donor should be deemed acceptable if he has had a history of hepatitis of any kind. It is conceivable, however, that an emergency might arise which would call for an exception to this general principle.

The fecal-oral route of transmission of virus A requires measures to interrupt this route. Among these are personal hygiene, adequate disposal of excreta, protection of food, milk, and water supplies against contamination, either direct, or by flying and crawling insects which had previous access to infected matter.

Stools must be regarded as harboring the active virus A for three weeks from the onset of the disease. Should the water supply be involved, chlorination may, but need not be effective, if preceded by coagulation, sedimentation, and filtration of its organic contents.

Both forms of hepatitis, A and B, can be transmitted through the accidental introduction of traces of infected blood remaining in a hypodermic needle or syringe. Thus it is imperative that only sterile instruments be used in every individual case. To help satisfy this requirement, the following steps should be taken:

(1) Syringes, needles, and all other instruments employed for any manner of parenteral penetration should be thoroughly cleaned immediately after use in order to prevent the coagulation of blood or other organic matter which would make its removal more difficult.

(2) After cleaning, the instruments should be subjected to virucidal treatment by one of the following methods: autoclaving, exposure to dry heat, or boiling for at least 15 minutes. (Lancets may be washed, rinsed under running water, then sterilized in an open flame.)

No particular comments are required as to the autoclaving procedure. The dry-heat treatment calls for exposure to a temperature of 170° C. for a minimum of 30 minutes, if the heat can be controlled in all parts of the hot-air sterilizer; otherwise treatment at 180° C. for one hour is recommended.[5]

As to boiling with water, it should be stressed that, unlike autoclaving, it will provide virucidal action rather than sterilization. On the other hand, boiling instruments in the presence of a suitable phenolic disinfectant for 15 minutes will effect sterilization† and, incidentally, furnish protection against the rusting action of hot water.[23] Syringes and needles treated in this manner should be flushed with sterile water to prevent injection of any chemical residue left in the appliance.**

†Including sporicidal action.

**Syringes treated in this manner are not recommended for the collection of blood specimens because of hemolysis.

In addition to the hazard of accidental pricking with soiled syringes and needles, residual antibiotics in soiled syringes and needles cause dermatitis in personnel. Hence technics of terminal sterilization and cleaning before handling are recommended.—ED.

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Infectious Hepatitis

Porter, J. E. et al. "Human Thrombin as Vehicle of Infection." *J.A.M.A.* 153:17, September 5, 1953.

In less than 18 months, 18 cases of homologous serum hepatitis developed. Fifteen of these were neurosurgical patients.

Before this sharp rise in infection, bovine thrombin had been used, and although it was not possible to determine the exact date on which this was replaced with human thrombin, epidemiological studies were conclusive enough to indict the thrombin as the infecting agent. In addition, human volunteers were injected with the suspected lots of thrombin and 50 percent developed jaundice; 20 percent developed hepatitis without jaundice.

The findings were positive enough to cause the authors to warn against the indiscriminate use of blood fractions. They feel that all commercial preparations containing human fluids or blood products should be considered potential vectors of homologous serum hepatitis until the presence or absence of virus can be positively demonstrated.

Kuh, Clifford and Ward, Walter E. "Occupational Virus Hepatitis." *J.A.M.A.* 143:631; June 17, 1950.

Seven cases of virus hepatitis occurring among workers handling blood and blood derivatives are reported. At no time in the workday of this group were needles or sharp instruments used. Although several workers showed numerous cuts on their hands from handling heavy equipment, other infected workers had apparently intact skin.

The various modes of possible entry of infection are discussed, and it is concluded that merely handling an infected product is enough to cause acute infection. Professional personnel handling blood and its derivatives are urged to take steps to protect themselves from infection. Since it is practically impossible to detect carriers of the virus, every unit of human blood should be considered potentially contaminated.

Sherwood, Paul M. "An Outbreak of Syringe-Transmitted Hepatitis with Jaundice in Hospitalized Diabetic Patients," *Ann. Int. Med.* 33:380; 1950.

In a 10-week period, four diabetic patients developed jaundice which was believed to be syringe-transmitted. Investigation revealed that a single syringe was used each morning for protamine zinc insulin and another for crystalline insulin. Each patient was injected with a fresh needle, and the vial was entered each time with a new needle—but with the common syringe.

The mode of transmission of infectious hepatitis is discussed; clinical manifestations are described, and a chronological survey is made of epidemics of syringe-transmitted hepatitis. Emphasis is put on the need for heat sterilization of all equipment contaminated with human blood or fluid.

Hughes, Robert R. "Post-Penicillin Jaundice." *Brit. M. J.* 2:685; 1946.

Nine of 10 cases of jaundice occurring in 66 chronic bone infections treated with penicillin had

(Continued on next page)

This chart is reprinted from *R.N.*—a Journal for Nurses, March, 1957. Copyright 1957 by the Nightingale Press, Inc., Oradell, N. J.

DIAGNOSTIC AND EPIDEMIOLOGIC FEATURES OF HEPATITIS

	INFECTIOUS HEPATITIS	SERUM HEPATITIS
Transmission	Food, flies, fingers, feces; parenteral injection.	Parenteral penetration
Transmissibility	Feces and blood	Blood and blood containers
Incubation period	15-40 days	60-160 days
Etiological agent	Virus A (?)	Virus B (?)
Seasonal incidence	Autumn and winter	Less influenced by season
Age groups	Children, young adults	Any age
Prevention	Sanitary and hygienic measures	Heat sterilization of instruments used for parenteral injection
Occurrence	World-wide; endemic; sporadic; epidemic	World-wide; sporadic as parenteral therapy increases.
Type of onset	Acute	Insidious

received penicillin since admission. The tenth had been treated elsewhere two months previously.

One fatality involved an 18-year-old boy with machine gun wounds of both legs, a compound fracture and malaria. He recovered from these ailments, but succumbed to progressive hepatitis.

Because jaundice was limited to patients having received penicillin, it was surmised that contaminated syringes might be responsible. The common syringe was demonstrated to be a very likely source of infection. A standard, sterile syringe with needle attached was filled with sterile saline. One cc. of saline was injected intramuscularly. The needle was then removed, and the succeeding drops of saline from the tip of the syringe were examined microscopically for red blood cells.

In 17 out of 39 injections, red cells were found in the syringe. The contamination is apparently limited to the few cc. of fluid in the tip of the syringe.

Several other experiments were made. The mechanism of contamination is explained as one involving the spread of a residual drop of blood left on a needle tip along the needle. When the needle is removed from the syringe. there is enough negative pressure present to cause the blood to enter the tip of the syringe. The next patient then receives the contaminated contents of the syringe tip, or the contaminating drops are injected into the multiple-dose vial when it is entered.

Madsen, Sten. "The Frequency of Hepatitis in Doctors." *Postgrad. Med.* 11:517; June, 1952.

The possibility that industrial compensation for acquired infectious hepatitis may become standard practice prompted this survey to determine, if possible, whether doctors and hospital personnel are more prone to the infection than the rest of the population.

Replies to questionnaires were received from 4,458 physicians; 1,862 lawyers, a group chosen as comparable in living and social conditions; 1,179 nurses, and 2,190 laborers and clerical workers, the latter group questioned to provide data for different comparison.

Doctors in all age groups showed a higher incidence of hepatitis. The maximum frequency for both doctors and lawyers was in the 40-50 age group. In the other groups, maximum frequency was in the group about age 30.

It is conjectured that the significantly lower percentage of reported infections in the group of workers may reflect a tendency in this group to seek medical advice only for serious and apparent illness.

Physicians reporting hepatitis in adulthood were questioned as to the possible source of infection. The greatest number listed their infection as "hospital acquired"; six reported being infected while doing postmortems. Nurses are apparently not infected to the same degree as physicians. There is some statistical evidence that hepatitis in childhood renders some immunity.

Liebowitz, Sidney. "Precautions Against Infections in Hospitals." *J.A.M.A.* 157:1072; 1955 (Queries and Minor Notes).

The author suggests that acute viral hepatitis be included in that list of diseases requiring special technics to prevent transmission. Individual thermometers are essential for patients with hepatitis and should be destroyed when the patient is discharged.

Hospital personnel should take care to avoid contaminating themselves with serum from infected patients, no matter what type of hepatitis is suspected.

Foley, F. E. and Gutheim, R. N. "Serum Hepatitis Following Dental Procedures; A Presentation of 15 Cases Including Three Fatalities." *Ann. Int. Med.* 45:369; September, 1956.

Fifteen of 22 cases of serum hepatitis occurring over a two-year period were concluded to be due to infection acquired from contaminated needles, syringes, procaine, or human thrombin used in dental procedures. Dental work can be very significant in the transmission of homologous serum jaundice, and extreme caution in heat-sterilizing instruments is urged. The danger of disease transmission from the multiple-dose ampule is also discussed.

"Prevention of Viral Hepatitis." A report by the Committee on Public Health of the New York Academy of Medicine. *Bull. N.Y. Acad. Med.* 33:128; February, 1957.

A recommendation is made that the New York City Department of Health organize an educational program to impress physicians, dentists, nurses, and other technical personnel in the medical and public health fields with the features of viral hepatitis. It is imperative that this group realize that this disease is a reportable one which is transmitted through blood transfusion or by any instrument contaminated with human blood or fluid.

Because chemical disinfection is inadequate against hepatitis, terminal heat sterilization of all such instruments is urged to prevent infection of personnel and patients. Statistics presented show a significant rise in the number of cases reported over the years. Even making an allowance for better technics of reporting, the rise is significant.

Aagenaes, O., Bach, H., and Budolfsen, S. E. "An Epidemic of Inoculation Hepatitis." *Acta Medica Scand.* 150:243; 1954-55.

Investigation of 418 cases of acute hepatitis admitted over a four-year period revealed that a considerable number had been treated within the hospital or outpatient department within six months of the onset of acute hepatiits.

From an average of 13 readmissions with acute hepatitis, the number jumped to 55, despite the fact that the total number of cases was lower than preceding years. The largest number of readmissions had had previous treatment in the medical department (two in 1948; 49 in 1952). The age group most prominent was the 51 to 70.

Although the incidence was highest in patients receiving previous treatment for cardiac disease, this was compatible with the figures for general admission. In diabetics and patients with rheumatoid arthritis, the incidence of readmission with hepatitis was unusually high.

The incubation period for all 51 cases ranged from two to six months, and it was concluded that

the disease had been transmitted through parenteral administration of drugs. Diabetics in this hospital received insulin from individually sterilized syringes and needles, so this mode of transmission for this group seemed improbable. The patients with rheumatoid arthritis had received injections of ACTH and cortisone during their previous admissions, but again with individually sterilized syringes and needles.

Common to all groups of patients, however, was the collection of multiple blood samples. Since collections were made in all departments of the hospital, it was suggested that the carrier of infection had access to all wards. On this assumption the technics for collection were explored.

All personnel involved in the collection of blood samples or administration of drugs were instructed that each diabetic patient was to have his own blood-sugar pipette. Blood for a sedimentation rate was to be collected directly from the needle into a tube and only sucked up from the tube with a syringe. Sterile pipettes for collection of blood samples from ear lobes were used once and sterilized in heat before being reused. Sterile lancets were used throughout the hospital. However, since the epidemic came to an apparent end before these stricter precautions could have logically been expected to bring about a change, further explanation was sought.

Two laboratory technicians succumbed to acute hepatitis in the last year of the documented epidemic. It did not seem likely that one technician could have been a source of infection, because she became ill at the peak of the epidemic. Careful questioning revealed that the second technician had had a habit of testing the sharpness of a needle by passing its edge across her finger. This apparently resulted in minor capillary openings and tissue spaces with release of enough fluid to contaminate the needle and transmit possible infection. Contact between this technician and 14 out of 40 cases of hepatitis could be documented. No absolute demonstration of the mode of transmission could be made, except that it must have been a parenteral mode and the transmission could be traced to the withdrawal of blood samples.

Hospital personnel need detailed instruction in the technics necessary to prevent transmission of serum hepatitis and to prevent infection of themselves.

This chart is reprinted with permission from the Christmas, 1953 edition of *What's New*, published by Abbott Laboratories.

Over 35 Cases of Occupational Viral Hepatitis in Medical Literature

INVESTIGATORS	DATE	NO. CASES	OCCUPATION
Leibowitz et al.	1949	1	Blood bank worker*
Cited by Kuh and Ward: Findlay et al.	1931	1	Laboratory worker handling patients' serums
London Correspondent	1943	"2+"	Laboratory worker handling patients' serums
Sheehan	1944	6	3 orderlies treating syphilitic patients; 3 laboratory workers doing Kahn test
Sawyer et al.	1944	2	English physician doing venipuncture; American technician doing icteric indexes
Kuh and Ward	1946-49	7	Laboratory workers in blood-processing laboratory
Trumbull and Greiner	1947-50	16	3 blood bank workers; 4 laboratory technicians; 2 operating room nurses; 1 student nurse; 1 intern; 3 surgeons; 1 pathologist; 1 dentist

*Compensation awarded

● *Time limitations made it impossible to answer all audience questions at the recent fourth national congress, Association of Operating Room Nurses. To answer some of these questions and reach a greater number of nurses, we have therefore invited several program participants to give their opinions in this column.*

This month's "guest expert" is Frances E. Reeser, R.N., operating room supervisor in New York City and national vice-president, Association of Operating Room Nurses.

Q. When you have a staff conference, who is the leader?

A. The type of conference would determine who the leader should be. If possible, a member of the staff, who has no administrative authority, should conduct it. A conference conducted in this manner is kept on a more democratic level. Also, it gives staff members confidence in their ability and stimulates interest in their jobs. A member of the staff could lead a conference dealing with procedures or technics.

A supervisor or head nurse should lead a conference dealing with personnel problems, since she would be the most experienced person, and would be able to solicit ideas from the group.

The final responsibility for results of any conference cannot be delegated but must be assumed by the supervisor. A leader of a conference should be equipped with a wide store of knowledge, judgment and skill.

Q. When the director of nurses makes rounds each morning, what should the supervisor include in the report to her?

A. The report should include the following:

(1) Staffing

(2) Personnel problems (if the supervisor is unable to cope with them)

(3) Emergency cases which have occurred during the night tour of duty

(4) Problems pertaining to supplies and equipment which the supervisor has not been able to solve

(5) Any change in the pre-arranged schedule of operations for the day.

(6) The progress of the educational program.

Q. Do you believe it is helpful to have individual conferences periodically with your staff?

A. Yes. Such conferences are considered a service to assist the individual in solving her own problems. They provide an opportunity to analyze the individual's work—to commend her on her strong points and point out her weaknesses—and should offer suggestions for overcoming these weaknesses.

An employee should be free at any time to ask for a conference, and the supervisor should hold one when she feels it is necessary. It should be held in privacy, in a quiet spot where there will be no disturbance.

Q. Should nurses be changed in the middle of a case—if a case lasts for a long time and they haven't had lunch, or if it is past their time to get off duty?

A. Yes, nurses should be relieved for lunch. An instrument nurse is always under a certain amount of tension which normally affects her blood chemistry and therefore influences body mechanics. Without food for energy she cannot do her best during a case.

Also, plans should be made to relieve a nurse at the close of her tour of duty. An overtired staff member does not make for good morale in a department, nor can she give excellent service to the patient or surgeon. It is true that on occasion a nurse may wish to remain with an interesting case until it is completed, but this should not be a routine occurrence. A good instrument nurse has no difficulty relieving another on a case; therefore, neither the patient nor the surgeon will suffer.

Q. Do you feel the instrument nurse should tell a surgeon if she sees him "break" sterile technic during surgery?

A. Yes. Technic is everyone's responsibility. Our aim is to give outstanding patient care at all times. To do this every member of the staff must be alert to breaks in technic during surgery. We must keep in mind that the patient usually is in a weakened condition upon arrival in surgery, and he is the one who suffers if safe practices are not employed.

Q. Many surgeons do not use proper technic when drying their hands after scrubbing. Should the nurse call a surgeon's attention to such a break?

A. The answer to the previous question on "breaks in technic" applies to this situation also. Since each hospital has a technic peculiar to its routine, it is advisable to tell the surgeon the method used. If he has difficulty carrying out the procedure, demonstrations may be given. If there is no improvement after he has been told and shown, it may become necessary to have the surgical chief speak to him.

Q. Would you consider a small reference library in the operating room of value for staff use? Where would it be placed to avoid loss?

A. A reference library in the operating room is definitely a necessity. It is a very valuable tool for teaching, particularly when nursing assistants are used in the department. The instrument nurse feels it is necessary for her to attain a thorough knowledge of all aspects of nursing, as well as to keep informed about the latest surgical technics, in order to antici-

pate the needs of the patient and the surgeon.

This information should be in the most convenient place — with the shortage of personnel and time, preferably in the operating room proper. The lounge is usually a suitable place, since it has the most relaxing atmosphere. During "coffee break" the nurse will then have an incentive to glance through literature in which she is interested.

A readily available reference library stimulates growth and development of personnel, and will also save time for staff members who prepare conferences and classes.

Q. Who is responsible for keeping procedure books up-to-date? How can you be sure they will be read?

A procedure committee should be formed to set up the procedure book and to review and evaluate new procedures which may be needed. It is the responsibility of all members of the staff to see that the book is kept up-to-date and that no procedures are lost. The head nurse or instructor should also make a periodic check on the contents.

One way to be sure each staff member has read the procedure is to have her sign or initial it after reading it. The entire procedure book should be reviewed approximately every three months by each staff member, to guard against the possibility that a procedure has been added without her knowledge.

Q. How does one cope with professional jealousy among scrub nurses, causing unrest in the department?

A. A mature individual seldom shows professional jealousy, but it may occur among the staff, especially in an active operating room situation. The supervisor cannot shift the responsibility for helping the individual or individuals who have developed this personality trait.

There are many things which may cause jealousy. The nurse may feel the need for recognition. To meet this need, the supervisor should give credit and praise when earned, and demonstrate personal interest in the progress of the individual.

If the nurse seems to need security, her assignments should be definite and the performance standards clearly defined. It is well at this time to let her know that if she performs in a certain manner she will gain the supervisor's approval. The relationship between her job and that of the other members of the staff should be explained. If she makes suggestions, they should be used when possible. The supervisor should indicate by her attitude that the nurse's job is important and tell her why she has been asked to do it.

The supervisor must be patient when dealing with the nurse, and should display a sincere interest in her welfare. Regular conferences should be held to discuss her problems and progress. An effort should be made to have her realize the administrative staff does not show favoritism, and she should be encouraged to work with other members of the team as much as possible.

If improvement is noted, the nurse should be told, and assigned greater responsibility as she proves herself able to accept it.

Cardiac Surgery Featured On ICS Nurses' Program

Sessions for operating room nurses will be held for the sixth consecutive year during the annual Congress of the United States and Canadian sections of the International College of Surgeons, at the Palmer House, Chicago, September 9 and 10.

Gerald Pratt, M.D., associate clinical professor of surgery, New York University College of Medicine, New York City, will speak on "Cardiac Surgery and the Operating Room Team" at the opening session September 9.

The program was planned by the operating room nurses' section of the Illinois Nurses Association under the direction of Margaret Young, R.N., program chairman, and O.R.S., South Chicago Community Hospital.

The afternoon program will include a demonstration and discussion of "Fire Safety in Hospitals," directed by Lt. Robert McGrath, hospital inspector, Fire Prevention Bureau, Chicago Fire Department. Chicago area nurses will participate in the program.

"Legal Problems Related to Surgical Service in Hospitals" will be presented September 10 by Charles U. Letourneau, M.D., director, program in hospital administration, Northwestern University, Chicago.

A draping clinic on Tuesday afternoon will finish the operating room section of the meeting. Nurses may also attend other sessions of the congress, lasting through September 12.

Advance registration may be made through Laura G. Jackson, Congress manager, International College of Surgeons, 1516 Lake Shore Drive, Chicago 10, Ill. There is no fee for nurses.

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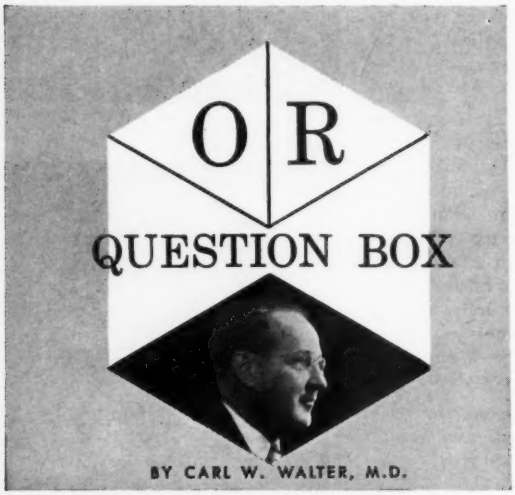

Assisted by Dorothy W. Errera, R.N.

Q. We are confused by the many kinds of hepatitis being discussed. Can you explain?

A. The disease commonly meant by the term "infectious hepatitis" is transmitted through excreta or blood, has an incubation period of two to six weeks, and is variously referred to as "epidemic hepatitis," "viral hepatitis," and "catarrhal jaundice."

To minimize the confusion to which you refer, it has been suggested that this disease be referred to as "infectious hepatitis."

Hepatitis which results from the virus which is transmitted only in blood has an incubation period of two to six months and is referred to as: "serum hepatitis," "homologous serum hepatitis," "inoculation hepatitis," "transfusion hepatitis," and "homologous serum jaundice."

For ease of discussion, standardization on the last-mentioned term has been urged.

Q. Is there any inoculation against hepatitis?

A. Gamma globulin protects against infectious hepatitis, but apparently has no effect against homologous serum jaundice.

Q. Are both diseases caused by the same organism?

A. Viruses are responsible for both diseases. Separate viruses or variants of one virus may be responsible. This has not been positively determined. Two viruses have been identified. That causing infectious hepatitis is labeled "Virus IH"; that causing homologous serum jaundice is labeled "Virus SH."

Q. If you have one type of hepatitis, are you immune to the other?

A. There is apparently no cross-immunity for infectious hepatitis and homologous serum jaundice. There is some statistical evidence that infectious hepatitis in childhood renders some immunity against the same infection in later years.

Q. Are the different kinds of hepatitis spread the same way?

A. Homologous serum jaundice is transmitted only parenterally—that is, the virus enters the blood stream either by direct transfusion or through breaks in the skin communicating with the capillaries.

Infectious hepatitis is transmitted either by this route or by contact with infected excreta.

Q. How can you tell which type you have?

A. Differential diagnosis is made on the basis of the incubation period. Infectious hepatitis has an incubation period ranging from two to six weeks, regardless of the mode of infection. Homologous serum jaundice has an incubation period of two to six months.

Q. If it is so possible to pick up jaundice, why don't we all come down with it?

A. Approximately 25 to 50 percent of persons injected with infectious material do not develop hepatitis. The liver apparently varies in its susceptibility to infection, depending on its phase of activity at the time of inoculation. Then, too, many cases of homologous serum jaundice are mild, non-icteric, subclinical infections. It is this latter fact that makes rigid policing of the routes of transmission necessary, since it is impossible to determine by a history who carries the virus in his blood stream.

Q. If we discard everything from the operative field that has been contaminated with blood and that cannot be heat-sterilized, will it not be more expensive for the patient?

A. A little planning, which is the basis of good operating room management, can do much to eliminate this waste. A simple change in the scrub nurse's technic can obviate much of the problem. Ampules, sutures, and other non-heat-stable items should be dispensed into a sterile, folded towel on an out-of-the-way corner of her table. She should remove them from the towel with a clean instrument for use in the operative field. At the end of the operation, the unused supplies in this towel —which have never contacted anything from the actual field—are picked up with a clean instrument and dropped into a container of germicide.

Q. What about the expensive plastic prosthesis which has to be fitted to the individual patient? We can't afford to throw away all that are tried before the right one is found.

A. Prosthetic devices to be used for fitting purposes can be fashioned of stainless steel. The appropriate size in plastic can then be selected and inserted.

Q. Are instruments cleaned in the ultrasonic instrument cleaner safe to handle?

A. The ultrasonic cleaner is a reliable device for cleaning instruments, but does not sterilize them. It does not eliminate the hazard of homologous serum jaundice, and contaminated instruments should be terminally sterilized before cleaning.

Q. If homologous serum jaundice is such a hazard, then operating room linen is particularly dangerous. Does it need any special handling?

A. All linen in surgery should be collected directly from the field into laundry bags by the scrub nurse while she is in gown and glove. Routine laundering processes are adequate for destruction of the virus of homologous serum jaundice.

Q. If the needle is changed every time for every patient, can the same syringe be used for giving a morning's penicillin shots?

A. The tip of a syringe becomes contaminated with whatever the needle contacts. Hence, changing the needle does not eliminate the hazard of transmission of infected material, because it is injected from the syringe tip through the new needle either into the common drug vial or into the next patient. (For description of this mode of contamination, see abstract on page 93 of article by Robert R. Hughes.—ED.)

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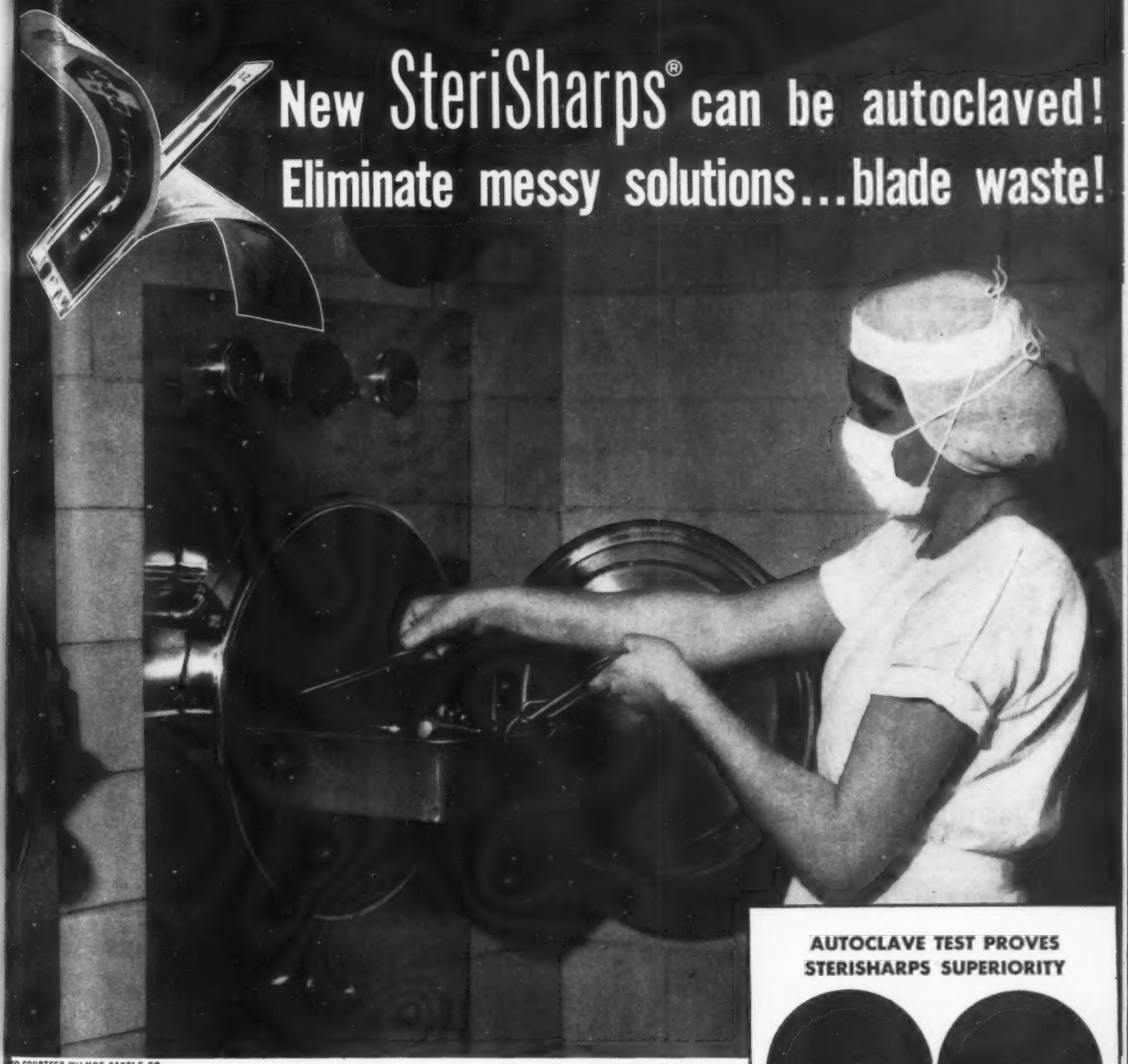

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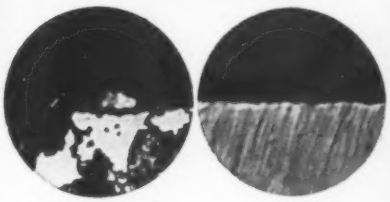

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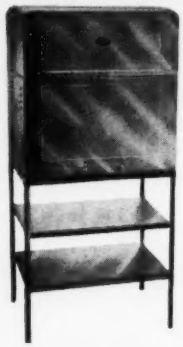

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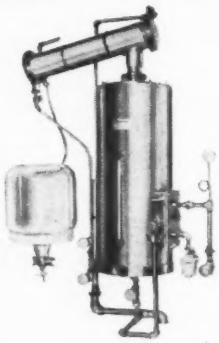

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Care and Sterilization of Rubber Gloves

By Carl W. Walter, M.D.,* and Dorothy W. Errera, R.N.

Central Supply

". . . That gloves of all things used in an operation should be of doubtful sterility is intolerable. . . . ."[1] and indeed unnecessary, considering the simplicity and ease of safe technics for preparation and sterilization.

Ethylene oxide sterilizers hold promise for simple, safe technics of sterilization at temperatures as low as 60° C. (140° F.), in which packaging and loading become secondary, and practically all factors necessary for sterilization are provided in automatic controls.[2]

Until these become standard equipment, however, hospitals must rely on steam sterilization with its few limitations and disadvantages, the latter being easily controlled in the case of specific items such as rubber gloves.

Rubber gloves are fabricated in a continuous process wherein porcelain forms are dipped into an aqueous suspension of latex and vulcanizing agents. The film of latex gathered on the forms is coagulated by immersing in an alcoholic solution of ascetic acid and curing salts. A second dip into the latex suspension precedes vulcanizing in warm, dry air. After the rubber has been set, the gloves are bleached in hot water to rid the rubber of soluble compounds.

SELECTION OF GLOVES

The chief factor to consider in selection of rubber gloves is use. When one realizes that more than 50 percent of new gloves may be punctured the first time worn,[3] it seems practical to purchase an inexpensive glove and discard damaged gloves. In a large institution, however, there is great need for rubber gloves in noncritical areas, and a repair program is worthwhile.

Mended gloves serve well in the fracture room and examining room, in communicable disease technics, and for many other purposes. Indeed, if the patching is skillfully done, most surgeons do not object to using repaired gloves.

Purchasing of gloves should be tuned to inventory, since aging contributes its share to glove deterioration. Maximum and minimum stocks must be set critically. Shelf storage should not exceed 12 months and should be at normal room temperatures away from sunlight, fluorescent lights, and generators. The last two cause formation of ozone which destroys rubber.

CARE OF GLOVES

Rubber itself is a hardy substance, resistant to alkalis or even moderately strong acids, but the non-rubber accessory substances in fabricated rubber products react unfavorably with a host of substances indigenous to hospitals. To list them all would be to list the stock of the average utility room. For example, gloves are dissolved by a solvent as common as benzol. Nitric acid, potassium permanganate, and hydrogen peroxide oxidize the rubber and end its useful life.

Rubber gloves are worn for bilateral protection—both the wearer and patient are isolated—and their use cannot be restricted by dictates of economy. The dangers of transmission of homologous serum jaundice make it imperative for the professional worker to wear gloves whenever blood or tissue fluids are likely to be contacted.

Proper use and care can control cost. Prompt and thorough rinsing of the gloves before removal minimizes residual contamination which may be destructive. Central processing by a proper technic prolongs usefulness.

This processing, with its costs and intricacies, is so susceptible to waste of time and supplies that it should be done under the supervision of a trained person in an area equipped with mechanical aids and personnel marshalled for the job. Economic advantage is achieved by the use of mechanical equipment wherever possible. Washing alone can be accomplished in less than 20 percent of the time necessary for washing by hand.[4]

PROCESSING IN LAUNDRY

Automatic washers range from the conventional domestic portable washer to institutional laundry equipment. Gloves can be successfully processed in the hospital laundry with the cooperation of the laundry manager. In one study, 98 percent of all gloves washed were acceptable for re-use, and tacky gloves were completely eliminated.[5] A lubricant drying mixture of ½-oz. of USP magnesium oxide powder (heavy) to 1 lb. of commercial cornstarch is thoroughly mixed and added to 10″ of rinse water at 100° F. A flannel powder bag containing the same mixture is included in the drying phase, and the finished gloves are reported to be soft and of a uniform texture.

At the Peter Bent Brigham Hospital in Boston, a Westinghouse Laundromat has been converted to provide an economical, dependable means of washing and drying the entire glove supply of a 285-bed institution. A source of filtered warm air and a heating unit are the only requirements for the conversion.

Any turret-top vacuum cleaner, preferably with disposable paper filter, provides the clean, warm air. A spare door for the washer, which can be obtained from the manufacturer, serves as the mount for the heating equipment and is hinged to the top of the machine in such a manner that it can be swung down into place during the drying cycle and folded back over the top when not in use (see Fig. 1).

A stainless steel disc, 10″ in diameter, is mounted in place of the glass, and a pyramidal chamber which houses the inlet from the vacuum cleaner and holds the heating unit and

(Continued on next page)

*Associate clinical professor of surgery, Harvard Medical School, and surgeon, Peter Bent Brigham Hospital, Boston.

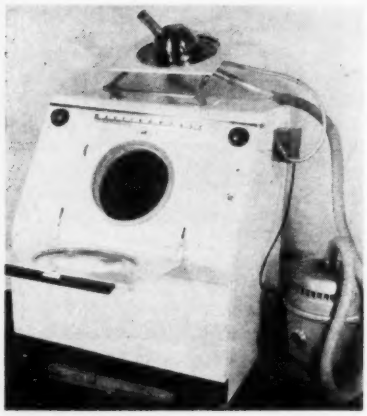

Figure 1

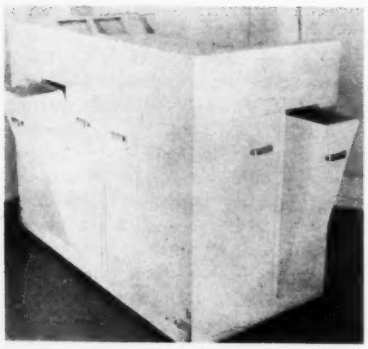

Figure 2

wiring connections is silver-soldered to the disc.

A 6" stainless steel mixing bowl is either silver-soldered or spot-welded to the inside of the disc as a plenum chamber, and a piece of 1½" chromed pipe, 4½" long, is silver-soldered in place to direct the blast of air against the left upper quadrant of the rotating drum.

The machine is rewired so that the solenoid valves which normally fill the machine with water are inactivated when the heater is turned on, and the machine will continue to tumble the gloves into the blast of dry air for as long as desired.

New gloves are washed to remove industrial dusting compounds. If dermatitis apparently attributed to rubber gloves develops, much of the difficulty may be obviated by immersing new gloves for 15 minutes in a 5% solution of sodium carbonate.

Soiled gloves are gathered together and washed without preliminary sorting or handling. An alkaline detergent such as tri-sodium phosphate will not harm rubber, and solubilizes soil on gloves.

CONTROL OF TACKINESS

Gloves soiled with blood present as much of a hazard of transmitting the virus of homologous serum jaundice as a syringe, needle, or scalpel, and to protect personnel, the temperature of the wash water must be raised to at least 180° F.[6]

Tackiness of rubber gloves has been a problem in many hospitals. Contact with quaternary ammonium compounds and the synthetic detergents will cause tackiness in a subsequently sterilized glove. Avoidance of prolonged contact with these substances and prompt washing of used gloves in alkaline solution will control this type of deterioration.

Addition to the rinse of the mixture of cornstarch and magnesium oxide, described above, will also render gloves soft and useful. One and one-half ounces of Bio-Sorb are added to the rinse cycle of the Westinghouse washer for the same purpose.

Gloves need not be turned during the washing technic described here and are removed from the washer ready for powdering.

In this procedure, mechanical aids are indicated for safety as well as economy. Markus decries the uncontrolled occupational hazards of conventional glove-powdering technics and describes the need for dust-collecting hoods in central supply rooms.[7] A simpler device is a rotating drum which powders the gloves uniformly, confines the dust, and uses a minimum of dusting compound.

Enough has been written of the granuloma-producing propensity of ordinary talcum and excessive amounts of amylase pectinate to make one realize that a minimal amount of dusting compound should be used.[8, 9, 10]

Gloves are dumped from the powdering drum on to a sorting table. The latter is a portable unit wheeled into position when needed and stored inconspicuously when not in use (see Fig. 2). It accommodates all the paraphernalia for testing, patching, and sorting gloves.

The best technic for testing gloves for punctures utilizes a machine to distend them with nitrogen. A lu-

Figure 3

Right: Lucite mold over which glove is fitted is shown in the insert at left of picture. Glove is fitted over mold at right.

cite mold fitted on the handle of a control valve for the compressed nitrogen permits rapid inflation and inspection (Fig. 3). The glove is fitted over the lucite and the cuff is snugged against the mold. As downward or angular force is exerted on the cuff, the mold is illuminated, the glove inflated, and the puncture exposed and sealed with a daub of liquid latex. Patched gloves are set aside to dry for 48 hours. Intact gloves are sorted into appropriate bins.

GLOVES ARE HYDRATED

Gloves of one size, ready for packaging, are emptied from a bin and packaged for sterilization (Fig. 2). A muslin folder with integral tab is used, the latter being positioned inside the glove to allow for an exchange of air and steam in the sterilizer. The folders and gloves are hydrated with a fine spray of distilled water and then wrapped in a double-thickness muslin wrapper (Fig. 4).

The economy of paper wrappers is a matter for individual consideration; the bacteriology of paper wrappers, however, is a matter of universal concern, and no choice should be made until bacteriologic evidence is presented that the wrapper is not a barrier to steam penetration in the time allotted for sterilization. It must be fabricated and packaged to eliminate channels, such as stitch holes, through which bacteria might gain access.

No discussion of steam sterilization is complete without a word of caution about superheating.

An exchange of energy—heat measured in calories—occurs during the transition from the vapor state to being fixed in the fiber.

In the sterilizer, a volume of hot steam meets a hydrated, cold package. The steam contacts the package, condenses, and in doing so, provides the moisture essential for sterilization. The energy released by the change of state also heats the package. The amount of water deposited is limited by the demand for energy to heat the package to sterilizing temperature.

On the other hand, when a dehydrated package is placed in the sterilizer, the textile, paper, or rubber extracts moisture from the surrounding steam to satisfy its thirst in such quantity that an excessive amount of energy is liberated. Besides heating the package, the extra heat superheats the surrounding steam and drives it into a temperature range so that it has the bactericidal properties of dry rather than moist heat. This same extra heat also chars textiles and reduces their tensile strength.

No automatic control can prevent superheating. Enough moisture must be supplied before sterilization to avoid the plundering of the steam. Textiles fresh from the laundry are moist enough for safe sterilization. In humid climates, there is no problem of supplying moisture, but wherever textiles or rubber goods are allowed to dry out in storage or in steam-heated rooms, moisture must be provided immediately before sterilization. This is easily done with a spray of distilled water. There need be no perceptible wetting of the articles to ensure safe sterilization.

NECESSARY PRECAUTIONS

A few additional precautions are necessary in the sterilization of rubber goods to avoid destruction. Oxygen, which destroys rubber, is present in the residual air which pools in the bottom of the sterilizer. Hence, rubber goods are positioned in the upper third of the sterilizing chamber.

Because excessive heating takes its toll of rubber goods, these items should be sterilized alone or with similar small packages so that they are not exposed to the prolonged heating necessary for the penetration of large packages. Also, they are removed promptly from the sterilizer at the end of the cycle.

All the care in washing, packaging, hydrating, in the endeavor to achieve sterile gloves, can be frustrated by improper positioning of the packages in the sterilizer. Sterilization of these packages occurs by penetration of the wrapper by steam and direct contact of all the glove surfaces. This is initially made possible when the glove surfaces are separated by the tab of the envelope; it is ensured when the gloves are placed in the sterilizer—in one position only—horizontal, the gloves standing on edge with the thumbs uppermost. In this way steam enters the inside of the glove at the same time it contacts the outside. Condensation occurs on both surfaces to provide the moisture essential for sterilization.

Gloves cannot be sterilized atop each other because compression of the bottom of the pile prevents access of steam. They cannot be sterilized standing on finger tips because the inverted glove pools air which cannot escape; hence the inside of the glove remains dry and unsterile.

They cannot be sterilized standing on the cuffs. In this position, steam contacts the cold outer surface of the glove, condenses, wets and heats that surface. By the time it creeps under the dependent cuff into the glove, the inner surface is warm, the steam does not condense, and the conditions prevailing are those for heat sterilization which requires longer exposure than that allotted for steam sterilization.

GLOVES SHOULD BE STORED

Gloves can be sterilized at a standardized 30 minutes at 121° C. (250° F.) without undue destruction if the load is limited to rubber goods or small packages.

Tensile strength of rubber is tem-

(Continued on next page)

Figure 4

porarily lost in heating but is regained on drying. Hence, sterilized gloves should be stored for 48 hours before use.

When stored in a cool, clean, dry, vermin-free place, packages wrapped in double-thickness muslin can be considered sterile until used. Resterilization is an expensive, time-consuming, illogical process which hastens deterioration of supplies, since proper precaution is seldom exercised to ensure hydration of the materials. Intelligent inventorying to keep supplies current can eliminate the stress of this perennial problem.

In disaster planning, prolonged storage of sterile gloves is feasible. The sterilized supplies should be packaged in an impervious material for protection against inevitable collections of dust and chance contact with moisture. Again, storage should be at room temperature or less, out of direct sunlight, and away from fluorescence or ozone.

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Use Lampreys for Inner Ear Study

Sea lampreys are being used for research in diseases of the inner ear at the University of Michigan Medical School, Ann Arbor, Merle Lawrence, M.D., professor of physiology, has reported.

Although the lamprey has a primitive type of inner ear quite different from that of humans, the cells are quite similar. They can be easily reached for research, since there is no bony skull protection as in other animals and humans.

The lamprey's inner ear will be tested to find out what kind of toxic conditions affect hearing, including noise, vibration, shock, and other factors.

The lampreys are heavily anesthetized to avoid giving off an electrical field when breathing which would upset the electrical recording device used in studying the ear.

Pictured are members of the Central Supply Room Conference of Minnesota. This group meets once a month, and has approximately 40 active members. They have held two institutes since 1954, and plan another this year. Helen Rakov (l.), central service supervisor, Abbott Hospital, Minneapolis, is president. Alvhild Berggren, president, Third District, Minnesota Nurses Association, helped the group organize. Joyce Chamberlain (r.), central supply supervisor, Glen Lake Hospital, Minneapolis, is program chairman. Not pictured is Mary Mesecher, executive secretary.

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Iron Deficiency Anemia of Pregnancy: Nausea precludes oral iron therapy in many anemic pregnant women. In those with severe anemia who are first seen late in pregnancy, prompt hemoglobin regeneration is unobtainable with oral iron. IMFERON produced prompt hemoglobin responses in anemia of pregnancy,[5,6] the results being similar to those obtained with intravenous saccharated iron oxide. Side effects were virtually absent with IMFERON.[5,6]

Resistant Hypochromic Anemia: Patients who do not respond to oral iron, those who cannot take oral iron and those with gastrointestinal pathology respond well to injections of IMFERON.[7-11] While oral iron is of little value in treating the anemia of rheumatoid arthritis, IMFERON is "...as beneficial as intravenous iron and easier to administer."[8]

Present Studies: Published reports and recent findings of clinical investigators confirm the effectiveness and safety of IMFERON for hemoglobin regeneration and creation of iron stores. More than 70 studies are now being completed in the United States. Reports stress prompt hemoglobin response, ease of administration and freedom from side effects. Clinicians desiring additional information should request Brochure No. NDA 17, IMFERON, Lakeside Laboratories, Inc., Milwaukee 1, Wisconsin.

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